NUCLEAR POWER INDEX TO VOLUME 6 1961

Special features: Authors, Book Reviews and Products are collected under these main headings. Contributed articles are included both under the author's name and under the subject. Progress and business activities are entered under a company's name, whilst marketed products are included in the Products section. Photographs are shown by the use of (*P*)

A

Accelerators
4·3MeV mobile unit for Trawsfynydd (Mullard) Feb 90, High Voltage orders June 87, polarized protons device, NIRNS Nov 63, pulsed ion linear (High Voltage) Apr 106, site radiography (R. F. Hanstock) Feb 69-71, 20MeV for Oxford July 63, Universities of Georgia and Texas ..... June 92
for US aviation industry (High Voltage) ..... Dec 92

Accidents (nuclear)
Criticality in Idaho processing plant Apr 73, *dosimetric investigation of the Vinca accident* (IAEA Report TO/HS/22) Mar 110, *few atomic reactor accidents* (L. Goodman) Mar 110, interim report on SL-1 (*P*) Mar 96-9, *Partial list of accidents involving radiation* (L. Goodman) Mar 110, *Plutonium release incident at Oak Ridge* (ORNL paper) Feb. 89, SL-1 investigations Feb 59, core damage Apr 72, (*P*) May 57, decontamination June 60, report SL-1, cause ..... Dec 60

Activation analysis: use of radiotracers by BMI ..... Aug 57
Oct 92, Shell use of deuteron accelerator ..... Aug 92

AEG (Germany): nuclear development work ..... Mar 94

Albania: nuclear activities 1960 ..... Jan 61

Alcan: new continuous strip mill for aluminium ..... Jan 101

Aluminium
cold extrusion (NEL) Nov 63, 144in continuous strip mill (Alcan) Jan 101, *Effect of heat treatments on the structural stability of sintered aluminium products* (Danish AEC report) ..... Nov 85

AMF Ltd: Engineering Exhibition ..... May 78

Argentina: uranium ..... Feb 56, 57

Argentina: Euratom agreement ..... Dec 57

Argonne National Laboratory: activities
Feb 91, mobile manipulator development May 87, synchrotron progress (*P*) Feb 57
new director: Dr A. V. Crewe ..... Dec 96
$4.4 million hot laboratory ..... Dec 64

Armstrong Whitworth - Brush: new electronics firm ..... May 96

Ashmore, Benson, Pease: Hero Reactor vessel (*P*) ..... May 88

Atomic forums (Letters) ..... Sept 49

Atomics International: reactor shutdown device (*P*) Jan 102, new thorium reactor research facility ..... Mar 96

Australia
nuclear activities 1960 Jan 68, AEC annual report Feb 55, Moata critical June 56, National University tandem generator Jan 60, 180MW station Oct 57, isotope production Jan 60, Queensland isotope interest ..... June 59

Australia — uranium: Government rewards withdrawn Apr 72, new Rum Jungle deposit Apr 74, June 60, taxation concessions May 56, find rewards May 57, European talks, May 58, delivery ..... Nov 58

Austria: nuclear activities 1960 Jan 61, Siemens Argonaut for Graz University Nov 54, Voeest receives Dragon helium container contract ..... Jan 57

Authors Index

Armor, J. Dungeness nuclear power station: 4. gas blowers and drives ..Apr 83-4

Arms, H. S. Sizewell nuclear power station: 1.. optimization of the design ..... Sept 61-5

Anscomb, R. Nuclear ship propulsion—an IAEA symposium ..... Jan 86-8

Balke, S. Atomic energy in the German Federal Republic ..... Mar 57

Barendregt, T J. Aspects of the Eurochemic reprocessing facility .... May 59-64

Becker, M. Fuel elements for German reactors ..... Mar 81-4

Bolton, J. C. and Tennet, M. G. Jason operating experience—2 .... Jan 89-91

Borst, W. Germany: the legal position ..... Mar 77

Bottrell, C. and Caldwell, J. Sizewell nuclear power station: 5. conventional plant design ..... Sept 76-81

Brearley, N. Dungeness nuclear power station: 5. the steam cycle ..... Apr 85-8

Broccardo, U. Safety and serviceability in reactor safety circuits ..June 67-9, July 81-5, Oct 76-7

Brown, A. H. Dungeness nuclear power station: 7. civil engineering .... Apr 92-4

Bruchner, Hans-J. The Kahl nuclear power station: zero power tests and planned modifications ..... Mar 67-70

Burkett, J. S. Power reactor development in Germany ..... Mar 80

Burkett, J. S. Progress at Harwell ..Aug 66-8

Burkett, J. S. Refuelling the AGR ..May 75-7

Burkett, J. S. Research at Berkeley ..Aug 61-3

Burt, R. G. New developments in the welding industry ..... Oct 62-5

Cartwright, D. K. and Todd, M. J. Instrumentation for criticality protection of chemical plants ..... Oct 79-82

Cole, S. The IAEA gathers momentum ..Jan 71

Collier, J. G. Burnout in liquid cooled reactors ..... June 61-6, July 64-7

Croft, J. F. The safety of research reactors ..... Aug 76-9

Darwin, G. E. The Metallurgy of Beryllium Conference ..... Dec 75-6

Darwin, G. E. and Johnson, A. A. Reactor materials and radiation damage (Berkeley Conference) ..... Aug 64-5

Dent, K. H. On-load refuelling problems ..... Aug 69-74

Desbruslais, E L. Safety aspects of Calder Hall reactor operation .... Nov 75-8

Dickinson, F. S. Welding in nuclear power stations ..... Oct 66-9

Edmonds, E. Eighth Conference on hot laboratories and equipment .... Feb 72-4

Emelyanov, V. Reactors in the Soviet Union ..... Feb 75-6

Fair, D. R. R. and Marsham, T. N. The contribution of Calder Hall and Chapelcross to the civil programme Nov 65-74

Faris, F. E. The Interatom marine reactor design ..... Mar 75-6

Finke, W. West Germany's energy position ..... Mar 58-9

Fisher, C. Specialized laboratories for producing radioisotopes ..... Feb 63-5

Fletcher, S. B. D. Dungeness nuclear power station: 2. development of the graphite core ..... Apr 79-81

Franklin, N. L., Johnson, A., and Clough, E. Selecting a fuel cycle for magnox reactors ..... Nov 79-83, Dec 77-9

Guard, R. F. W. Progress in technology: 1. reactor engineering .... Jan 74-7

Hall, G. R. Progress in technology: 3. process chemistry ..... Jan 79-80

Hanstock, R. F. Electron accelerators for site radiography ..... Feb 69-71

Haugen, R. A. Controlled leakage pumps July 74

Haunschild, H. H. Germany: liability and insurance ..... Mar 78

Havranek, W. A. and Kierans, T. M. Solutions of reactor dynamic equations ..... Feb 77-80

Hirsch, E. Euratom's year of expansion ..Jan 72

Hitchcock, J. A. and Lis, J. Heat transfer research at the Central Electricity Research Laboratories ..... Dec 65-8

Hocker, W. H. A. Nuclear research in Western Germany ..... Mar 60-2

Hollands, S. Germany: financing atomic energy ..... Mar 79

Hollands, S. Industry neglects radioisotopes ..... Feb 68

Hollands, S. The US nuclear export drive ..... June 78-9

Hryniszak, W. Dungeness nuclear power station: 6. design and construction of steam generators ..... Apr 89-92

Huet, P. The work of the ENEA ....Jan 73

Iggulden, D. Burst slug detection in the AGR ..... May 71-3

Iggulden, D. Uses of radioisotopes and irradiation ..... Feb 66-7

Jamieson, D. W. Experience with glandless heavy water pumps ..... July 75-6

Jefferson, S. Progress in technology: 4. applied irradiation ..... Jan 80-1

Jeffries, T. O. *et al* The Saturn analogue computing installation—1 ..Dec 80-4

Joss, J. O. Dungeness nuclear power station: 3. the burst cartridge detection system ..... Apr 81-2

Llewelyn, G. W. and Allardice, R. H. Experience in reprocessing enriched reactor fuel elements ..... June 71-6

Machnig, O., Binckebanck, J., Hennings, U., and Kuster, R. Special features of the Brown Boveri-Krupp reactor ..... Mar 63-6

McKean, J. D. and Lakin, N. O. E. Sizewell nuclear power station: 3. civil and mechanical design aspects Sept 69-72

Moore, D. Sizewell nuclear power station: 2. control and instrumentation ..... Sept 65-9

Muller, F. Dynamic corrosion testing with water and steam ..... May 68-70

Plail, O. S. Irradiation techniques for fissile materials .....Jan. 82-5, Mar 100-2, ...Apr 101-3, May 82-6, June 81-2

Povey, E. G. W. Dungeness nuclear power station: 8. construction programme ..... Apr 94-6

Sidebotham, E.W. Escape probabilities ..Dec 70-4

Taylor, D. The Belgrade Convention on Nuclear Electronics ..... Aug 81-3

Taylor, D. Progress in technology: 2. nucleonic instrumentation .....Jan 77-9

Taylor, D. Symposium on Reactor Instrumentation and Control .....May 65-7

Taylor, J. W. Powder metallurgy in the Nuclear Age Seminar, Austria .....Oct 78

Vaughan, R. I. and Pickering, W. J. Axial flux instability in gas-cooled power reactors ..... Apr 97-100

Vaughan, R. D. Dungeness nuclear power station: 1. novel features of the design ..... Apr 76-9

Waldron, M. B. The use of plutonium in reactors ..... July 58-62

NUCLEAR POWER INDEX TO VOLUME 6 1961

Special features: Authors, Book Reviews and Products are collected under these main headings. Contributed articles are included both under the author's name and under the subject. Progress and business activities are entered under a company's name, whilst marketed products are included in the Products section. Photographs are shown by the use of (*P*)

A

Accelerators
4·3MeV mobile unit for Trawsfynydd (Mullard) Feb 90, High Voltage orders June 87, polarized protons device, NIRNS Nov 63, pulsed ion linear (High Voltage) Apr 106, site radiography (R. F. Hanstock) Feb 69-71, 20MeV for Oxford July 63, Universities of Georgia and Texas ..... June 92
for US aviation industry (High Voltage) ..... Dec 92

Accidents (nuclear)
Criticality in Idaho processing plant Apr 73, *dosimetric investigation of the Vinca accident* (IAEA Report TO/HS/22) Mar 110, *few atomic reactor accidents* (L. Goodman) Mar 110, interim report on SL-1 (*P*) Mar 96-9, *Partial list of accidents involving radiation* (L. Goodman) Mar 110, *Plutonium release incident at Oak Ridge* (ORNL paper) Feb. 89, SL-1 investigations Feb 59, core damage Apr 72, (*P*) May 57, decontamination June 60, report SL-1, cause ..... Dec 60

Activation analysis: use of radiotracers by BMI ..... Aug 57
Oct 92, Shell use of deuteron accelerator ..... Aug 92

AEG (Germany): nuclear development work ..... Mar 94

Albania: nuclear activities 1960 ..... Jan 61

Alcan: new continuous strip mill for aluminium ..... Jan 101

Aluminium
cold extrusion (NEL) Nov 63, 144in continuous strip mill (Alcan) Jan 101, *Effect of heat treatments on the structural stability of sintered aluminium products* (Danish AEC report) ..... Nov 85

AMF Ltd: Engineering Exhibition ..... May 78

Argentina: uranium ..... Feb 56, 57

Argentina: Euratom agreement ..... Dec 57

Argonne National Laboratory: activities
Feb 91, mobile manipulator development May 87, synchrotron progress (*P*) Feb 57
new director: Dr A. V. Crewe ..... Dec 96
$4.4 million hot laboratory ..... Dec 64

Armstrong Whitworth - Brush: new electronics firm ..... May 96

Ashmore, Benson, Pease: Hero Reactor vessel (*P*) ..... May 88

Atomic forums (Letters) ..... Sept 49

Atomics International: reactor shutdown device (*P*) Jan 102, new thorium reactor research facility ..... Mar 96

Australia
nuclear activities 1960 Jan 68, AEC annual report Feb 55, Moata critical June 56, National University tandem generator Jan 60, 180MW station Oct 57, isotope production Jan 60, Queensland isotope interest ..... June 59

Australia — uranium: Government rewards withdrawn Apr 72, new Rum Jungle deposit Apr 74, June 60, taxation concessions May 56, find rewards May 57, European talks, May 58, delivery ..... Nov 58

Austria: nuclear activities 1960 Jan 61, Siemens Argonaut for Graz University Nov 54, Voeest receives Dragon helium container contract ..... Jan 57

Authors Index

Armor, J. Dungeness nuclear power station: 4. gas blowers and drives ..Apr 83-4

Arms, H. S. Sizewell nuclear power station: 1.. optimization of the design ..... Sept 61-5

Anscomb, R. Nuclear ship propulsion—an IAEA symposium ..... Jan 86-8

Balke, S. Atomic energy in the German Federal Republic ..... Mar 57

Barendregt, T J. Aspects of the Eurochemic reprocessing facility .... May 59-64

Becker, M. Fuel elements for German reactors ..... Mar 81-4

Bolton, J. C. and Tennet, M. G. Jason operating experience—2 .... Jan 89-91

Borst, W. Germany: the legal position ..... Mar 77

Bottrell, C. and Caldwell, J. Sizewell nuclear power station: 5. conventional plant design ..... Sept 76-81

Brearley, N. Dungeness nuclear power station: 5. the steam cycle ..... Apr 85-8

Broccardo, U. Safety and serviceability in reactor safety circuits ..June 67-9, July 81-5, Oct 76-7

Brown, A. H. Dungeness nuclear power station: 7. civil engineering .... Apr 92-4

Bruchner, Hans-J. The Kahl nuclear power station: zero power tests and planned modifications ..... Mar 67-70

Burkett, J. S. Power reactor development in Germany ..... Mar 80

Burkett, J. S. Progress at Harwell ..Aug 66-8

Burkett, J. S. Refuelling the AGR ..May 75-7

Burkett, J. S. Research at Berkeley ..Aug 61-3

Burt, R. G. New developments in the welding industry ..... Oct 62-5

Cartwright, D. K. and Todd, M. J. Instrumentation for criticality protection of chemical plants ..... Oct 79-82

Cole, S. The IAEA gathers momentum ..Jan 71

Collier, J. G. Burnout in liquid cooled reactors ..... June 61-6, July 64-7

Croft, J. F. The safety of research reactors ..... Aug 76-9

Darwin, G. E. The Metallurgy of Beryllium Conference ..... Dec 75-6

Darwin, G. E. and Johnson, A. A. Reactor materials and radiation damage (Berkeley Conference) ..... Aug 64-5

Dent, K. H. On-load refuelling problems ..... Aug 69-74

Desbruslais, E L. Safety aspects of Calder Hall reactor operation .... Nov 75-8

Dickinson, F. S. Welding in nuclear power stations ..... Oct 66-9

Edmonds, E. Eighth Conference on hot laboratories and equipment .... Feb 72-4

Emelyanov, V. Reactors in the Soviet Union ..... Feb 75-6

Fair, D. R. R. and Marsham, T. N. The contribution of Calder Hall and Chapelcross to the civil programme Nov 65-74

Faris, F. E. The Interatom marine reactor design ..... Mar 75-6

Finke, W. West Germany's energy position ..... Mar 58-9

Fisher, C. Specialized laboratories for producing radioisotopes ..... Feb 63-5

Fletcher, S. B. D. Dungeness nuclear power station: 2. development of the graphite core ..... Apr 79-81

Franklin, N. L., Johnson, A., and Clough, E. Selecting a fuel cycle for magnox reactors ..... Nov 79-83, Dec 77-9

Guard, R. F. W. Progress in technology: 1. reactor engineering .... Jan 74-7

Hall, G. R. Progress in technology: 3. process chemistry ..... Jan 79-80

Hanstock, R. F. Electron accelerators for site radiography ..... Feb 69-71

Haugen, R. A. Controlled leakage pumps July 74

Haunschild, H. H. Germany: liability and insurance ..... Mar 78

Havranek, W. A. and Kierans, T. M. Solutions of reactor dynamic equations ..... Feb 77-80

Hirsch, E. Euratom's year of expansion ..Jan 72

Hitchcock, J. A. and Lis, J. Heat transfer research at the Central Electricity Research Laboratories ..... Dec 65-8

Hocker, W. H. A. Nuclear research in Western Germany ..... Mar 60-2

Hollands, S. Germany: financing atomic energy ..... Mar 79

Hollands, S. Industry neglects radioisotopes ..... Feb 68

Hollands, S. The US nuclear export drive ..... June 78-9

Hryniszak, W. Dungeness nuclear power station: 6. design and construction of steam generators ..... Apr 89-92

Huet, P. The work of the ENEA ....Jan 73

Iggulden, D. Burst slug detection in the AGR ..... May 71-3

Iggulden, D. Uses of radioisotopes and irradiation ..... Feb 66-7

Jamieson, D. W. Experience with glandless heavy water pumps ..... July 75-6

Jefferson, S. Progress in technology: 4. applied irradiation ..... Jan 80-1

Jeffries, T. O. *et al* The Saturn analogue computing installation—1 ..Dec 80-4

Joss, J. O. Dungeness nuclear power station: 3. the burst cartridge detection system ..... Apr 81-2

Llewelyn, G. W. and Allardice, R. H. Experience in reprocessing enriched reactor fuel elements ..... June 71-6

Machnig, O., Binckebanck, J., Hennings, U., and Kuster, R. Special features of the Brown Boveri-Krupp reactor ..... Mar 63-6

McKean, J. D. and Lakin, N. O. E. Sizewell nuclear power station: 3. civil and mechanical design aspects Sept 69-72

Moore, D. Sizewell nuclear power station: 2. control and instrumentation ..... Sept 65-9

Muller, F. Dynamic corrosion testing with water and steam ..... May 68-70

Plail, O. S. Irradiation techniques for fissile materials .....Jan. 82-5, Mar 100-2, ...Apr 101-3, May 82-6, June 81-2

Povey, E. G. W. Dungeness nuclear power station: 8. construction programme ..... Apr 94-6

Sidebotham, E.W. Escape probabilities ..Dec 70-4

Taylor, D. The Belgrade Convention on Nuclear Electronics ..... Aug 81-3

Taylor, D. Progress in technology: 2. nucleonic instrumentation .....Jan 77-9

Taylor, D. Symposium on Reactor Instrumentation and Control .....May 65-7

Taylor, J. W. Powder metallurgy in the Nuclear Age Seminar, Austria .....Oct 78

Vaughan, R. I. and Pickering, W. J. Axial flux instability in gas-cooled power reactors ..... Apr 97-100

Vaughan, R. D. Dungeness nuclear power station: 1. novel features of the design ..... Apr 76-9

Waldron, M. B. The use of plutonium in reactors ..... July 58-62

Webb, T. B. Sizewell nuclear power station: 4. gas circuits and boilers ..Sept 72-6
West, R. Reactor facilities for the production of radioisotopes .....Feb 60-2
Winnaker, K. The role of the Deutsches Atom-Forum .....Mar 85
Ziegler, A. The Siemens Multi-Purpose Reactor design .....Mar 71-4

B

Babcock and Wilcox Ltd (UK): 1960 losses July 94, Sizewell steamplant .. May 78
Babcock and Wilcox Co. (US): lower cost fuel elements May 96, spectral shift reactor contract .....Sept 90
no interim dividend .....Dec 94
Batelle Memorial Institute: gas pressure UO_2 bonding process .....Feb 91
Belgium
BR-2: (*P*) July 56, critical Aug 53 exchange agreement Japan Aug 94; BR-3 fuel (*P*) Nov 60, Chooz PWR contract signed Nov 54, Mol Centre investment Mar 54, uranium plant Jan 59, nuclear activities 1960 .....Jan 61
Chooz: Euratom second round proposal .....Dec 56
Berkeley Nuclear Research Laboratories: survey (J. S. Burkett) Aug 61-3, hot laboratory (Hobson) May 78, Berkeley Reactor Simulator School .....Nov 88
Beryllium
Corrosion of beryllium, beryllia, and selected steel in carbon dioxide (Australian AEC paper) Oct 83, electron beam melting (Lockheed) Jan 102, future (Letters) Nov 49, *Purification of beryllium by a distillation process* (Report AERE R3321) Apr 111, use for HTGR Apr 74 price reduction (Brush Beryllium) .....Dec 94
Beryllium— 7 production at UKAEA, Amersham .....Aug 92
Beryllium Metallurgy Conference, Oct 1961 (G. E. Darwin) .....Dec 75-6
Bibliographies: computers Mar 108, radioisotopes .....Feb 87
Birmingham College of Advanced Technology .....Aug 90
Blackburn Electronics: temperature scanning for Trawsfynydd .....Jan 102
Blakeborough: valve order for Dungeness Jan 108
Blaw Knox construct Thames Grid crossing .....Feb 92
Boilers for Trawsfynydd (International Combustion) (*P*) .....Aug 80

Book Reviews

Atom ABC compiled by W. D. Muller .....Mar 114
Atomic energy waste edited by E. Glueckauf .....Dec 98
Controlled thermonuclear reactions S. Glasstone and R. H. Lovberg .....Oct 98
Digital computers and nuclear reactor calculations W. C. Sangren .....Dec 98
Direct conversion of heat to electricity edited by J. Kaye and J. A. Welsh ..May 102
Disposal of radioactive wastes Vol. I Conference Proceedings, Monaco ....Apr 120
Elementary introduction to nuclear reactor physics S. E. Liverhant .....Oct 98
Extractive and physical metallurgy of plutonium and its alloys edited by W. D. Wilkinson .....Feb 102
The fundamental atomic constants J. H. Sanders .....Dec 98
Heat transfer engineering H. Schenk ..Apr 120
High energy nuclear physics W. O. Lock .....June 98
Hyperonen und K-Mesonen M. A. Markow .....July 100
Instrumentation in scientific research—electrical input transducers K. S. Lion Feb 102
Ionization phenomena in gases G. Francis .....Feb 102
Kernenergic-Tecknik H. Engel and K. O. Thielheim .....June 96
Management of nuclear materials R. F. Lumb .....Nov 92
Materials for nuclear engineers edited by A. B. McIntosh and T. J. Heal ...Nov 92
Measurement of neutron flux and spectra for physical and biological applications NBS Handbook 72 ....Sept 96
Multilateral agreements (IAEA Legal Series No. 1) .....Mar 114
Neutron detection W. D. Allen .....Apr 120
Nuclear energy terms (English-German, German-English) compiled by A. Z. Redding .....Mar 114
Nuclear forces and the few-nucleon problem edited by T. C. Griffith and E. A. Power .....Aug 98
Nuclear fusion edited by W. P. Allis (2nd Geneva Series) .....Feb 102
Nuclear photodisintegration J. S. Levinger .....Feb 104
Nuclear physics and atomic energy terms G. J. Béné et al .....Mar 114
Nuclear reactor containment buildings and pressure vessels Glasgow Symposium 1960 .....Aug 98
Practical nucleonics F. J. Pearson and R. R. Osborne .....Oct 98
Protection against radiations from sealed gamma sources NBS Handbook 73 .....Sept 96
Proceedings of the Fourth Conference on Carbon University of Buffalo, New York, 1959 .....Sept 96
Progress in nuclear physics, vol. 8 edited by O. R. Frisch .....Sept 96
Radioactive analysis IAEA Symposium 1959 edited by B. R. Payne .....Nov 92
Recommendations of the International Commission on Radiological Protection Report of Committee III .....July 100
X-ray powder photography in inorganic chemistry R. W. M. D'Eye and E. Wait .....July 100
Reactor handbook, 2nd edition, 4 volumes. Vol. 1: Materials edited by C. R. Tipton .....June 98
Symposium of plasma dynamics (1958) edited by F. H. Clauser et al ....Feb 104
Taschenbuch für Atomfragen 1959 ....Mar 114
Third Metallurgy Symposium on Corrosion, Saclay, 1959 .....Jan 112

Borough Polytechnic: teaching aids ....Apr 110
Brazil
Agreement with Paraguay Nov 58, research agreement with France Aug 58, power station plans July 57, Aug 58, Minas Gerais Triga critical .....Feb 59
300MWe gas-cooled reactor tenders invited .....Dec 58
Brazing: high vacuum fluxless (UKAEA, Capenhurst) (*P*) .....Sept 85
British Insulated Callender's Cables: work on Thames Grid crossing .....Feb 92
British Oxygen Gases: welding magnox and stainless steel .....Jan 102
British Welding Research Association: new engineering laboratory (*P*) .....Oct 84
Brookhaven National Laboratory: 3MeV cyclotron (*P*) Feb 59, world's first high intensity radiation laboratory .....Feb 92, Nov 90
Bruce Peebles: control rod generators for Trawsfynydd .....Feb 92
Bulgaria: nuclear activities 1960 Jan 61, research reactor operates .....Nov 57
Burma: nuclear activities 1960 .....Jan 70
Burnout in liquid cooled reactors (J. G. Collier) .....June 61-6, July 64-7
Burst cartridge detection: AGR (D. Iggulden) May 71-3, Trawsfynydd selector valve (Plessey) .....Apr 106

C

Calder Operations School: new simulator (Short's) .....May 78, Nov 62 (*P*) 88
Canada
nuclear activities 1960 Jan 66, accident to Toronto Un. sub-critical assembly Sept 57, AECL activities Aug 58, Canadian Nuclear Association Aug 58, CANDU power costs May 57, heavy water plans June 59, NPD delay Aug 58, OMR decision soon July 57, uranium: UK-Canada talks May 55, June 56, Aug 57, Nov 58, U 308-1960 production .....Feb. 56
uranium future .....Dec 59
Carbon-14 labelled carbohydrates: production at UKAEA, Amersham .....Sept 88
Carbon-16 isotope discovered (AWRE) ..July 88
Carbon dioxide polymers (UKAEA, Capenhurst) .....Oct 86
CEGB annual report Nov 53, Isotope Bill Jan 58, Mar 54, passed May 53, training power station operations staff .....Nov 88
Central Electricity Research Laboratories: heat transfer research (J. A. Hitchcock and J. Lis) .....Dec 65-8
CERN: 1960 annual report .....Dec 57
China: nuclear activities 1960 Jan 58, cobalt-60 machines, Shanghai (*P*) Jan 108, first reactor critical .....May 57
Chlorella growing (UKAEA) .....Feb 92
Cimex: form nuclear department .....Oct 94
Cladding materials: *Evaluation of metal alloys for cladding fuel elements in a high temperature nitrogen-cooled reactor* (AGN paper) .....Oct 83
Cobalt-60: 7000 curie source for Germany June 87, world surplus says Canada Sept 88, UKAEA production .....Sept 88
Colleges of Advanced Technology (Students) .....Aug 90
Common Market (*see also* Euratom) ....July 79
Computers: use in nuclear design .....Feb 87
Computers, analogue: Electronic Associates rental scheme Dec 94, English Electric's Saturn installation (T. O. Jeffries *et al*) Dec 80-4, principles (Students) .....Dec. 85
Computers, digital: applications at AERE Babcock and Wilcox (Ferranti) .....June 86
Computers, digital: reactor problems Mar 108, IBM 7090 for Aldermaston May 88, Stretch for Los Alamos .....Oct 86
Concrete pressure vessels: Aug 60, Czechoslovakia design Nov 63, *Prestressed concrete pressure vessels at Marcoule* (J. Bellier and M. Tourasse) Jan 100, *Some contributions from nuclear power to engineering practice* (I. Davidson) .....Jan 100
Concrete shields: *Stresses in reinforced concrete shields for nuclear reactors* (I.Civ.E. paper) .....May 93
Control, reactors: *Bang bang reactor control* (Report SP-2652) Aug 84, *control system for the ML-1 nuclear power plant* (report AN-ENGR-17) Sept 82, Dounreay reactors (D. Taylor) .....May 65-7
Control instrumentation: safety and serviceability (U. Broccardo) .....June 67-9, July 81-5, Oct 76-7
Crewe, Dr A. V., new director Argonne National Laboratory .....Dec 96
Criticality protection of chemical plants (D. K. Cartwright and M. J. Todd) ..Oct 79-82
Czechoslovakia: nuclear activities 1960 ..Jan 61

D

Danatom: 200MW GAMMA design study ..Dec 62
Darlington Forge: pressure vessel rings .....June 84
Demag: crane for Garching's FRM reactor .....Mar 93
Denmark: nuclear activities 1960 Jan 61, BWR study Nov 57, research plans 1961 Feb 53, reactor for Greenland .....Sept 57
Denmark: 200MW GAMMA design study .....Dec 62
Deutsche Babcock & Wilcox: AGR fuel element test facilities .....Mar 91
Dunworth, Dr J. V., deputy director at NPL .....Dec 96

E

Electrical research laboratories (A. West) June 85
Electrical Research Association: new creep of steel laboratory .....Sept 84
Electricity, direct conversion: General Dynamics project Oct 86; (Letters) .....Feb 49, Mar 49
miniature 50mV, 1A thermo-element (General Dynamics) (*P*) .....Dec 62
Electromagnetic relays replaced (UKAEA) Jan 101
Electronic Associates: PACE for Euratom's Ispra centre .....Apr 114
Electronic circuitry training (Students) ..Apr 110
Electronics, nuclear: IAEA Conference, Belgrade (D. Taylor) .....Aug 81-3
EMI Electronics: Berkeley monitors contract .....Nov 94
Engineering, Marine, Welding and Nuclear Energy Exhibition, 1961 ..May 78-81
English Electric: GEC merger Jan 108, May 96, nuclear research June 54, Whetstone component testing .....July 77-8
Esso Research Centre: mobile manipulator development .....May 87
Euratom
European energy policies Feb 54, fuel delivery No. 54, fusion research—W. German contract May 56, Grenoble contracts Feb 55, insurance scheme Aug 54, Ispra centre handed over June 55, Ispra ECO project - Dutch Neratoom contract Nov 94, marine plans May 55, marine contract—W. Germany Apr 71, marine agreements Aug 56, nuclear equipment manufacturers meet Jan 58, Petten centre Oct 56, progress 1960 (E. Hirsch) Jan 72, reasoning machine project Sept 83, second round proposals invited Nov 54, subsidies — fuel and power reactors June 51, 53, July 54, 79, Aug 54, Senn contract Nov 57, Transatom bulletin on USSR .....Jan 58
additional ship funds Dec 57, Argentina agreement Dec 57, Japan agreement ..Dec 57
Euratom and the UK: AEA's future Oct 58, UK-Canada-Euratom joint research proposal .....Jan 58
Euratom and the USA: Hirsch speaks on the joint programme Feb 54, amendments to the joint Act .....Oct 57
Eurochemic: Sept 60, reprocessing plant (T. J. Barendregt) .....May 59-64
European Nuclear Energy Agency: the work of the ENEA (P. Huet) .....Jan 73
new fields for international collaboration .....Dec 57

F

Fairey Engineering Ltd: Hector test rig (*P*) .....Feb 91
Ferranti: Atlas computer for NIRNS Oct 94, Mercury and Argus digital computer applications .....June 86
Films ..... Apr 110, June 92, July 92, Sept 83
Films .....Dec 85
Finland: nuclear activities 1960 Jan 61, agreements for Triga reactor Feb 54, IAEA studies Feb 55, USSR fuel offer for subcritical assembly Feb 59, uranium concentration plant (*P*) .....May 54
Fire extinguishing powders (Dounreay) ..Aug 87
Fission gas collection system (Report GEAP-3577) .....Feb 89
Fission products: *High temperature fission product trap study for gas-cooled reactors* (Report GA-1990) .....Aug 84
Flow measurement: *a new tagging technique for measuring slow flow rates and material dwell times* (Goodyear paper) .....Sept 82
Food irradiation: new AEC centre in Massachusetts Apr 114, low dose radiation research .....Nov 90
Foratom: IAEA relations Sept 54, conference Sept 55, UK industry disagrees .....Apr 69
Formosa: first nuclear power station ....Feb 55
France (*See also*: Reactors)
nuclear activities 1960 Jan 61, AEC annual report Nov 55, Brazil research agreement Aug 58, Cadarache submarine project: US enriched fuel Mar 54, Euratom contracts for Grenoble

Feb 55, Euratom and fuel subsidy Aug 54, new fuel element plant Feb 54, heavy water pilot plant (Toulouse) closes Apr 71, nuclear ship roundup May 55, nuclear ship guidance note June 54, research expenditure May 56, Sena statutes approved Apr 71, S. Vietnam agreement Mar 54, submarines plan Jan 57, submarine trials by 1967-8 July 55, USSR agreement ..... May 56

Frieseke & Hoepfner: mobile radiation laboratory (*P*) ..... Mar 95

Fuel cells (Fuel Cell Research Associates paper) Feb 88, *Fuel cells based on nuclear reactors* (Report MSAR 60-115) Apr 111, ammonia type (Allis-Chalmers) ..... Nov 62

Fuel charging
concrete pressure vessel reactor Aug 60, (Letters) May 49, June 49, mechanism (Bristol Siddeley) (Telekton) (Talbot Stead) May 78, on-load (K. H. Dent) Aug 69-74, D_2O pressure tube reactor contract to AMF Sept 57, on-load (Editorial) Aug 51, on-load experiments at Calder Hall ..... Oct 85

Fuel handling: AGR (J. S. Burkett) May 75-7, *Fuel handling procedures for organic moderated reactors* (AI paper) ..... Sept 82

Fuel elements
Be0 coating process (Numec) Sept 84, *Ceramic-coated fuel particles progress at Batelle* (report BMI 1468) Feb 88, *Deformation of thin cladding by thermal expansion and/or cracking of UO_3* (US GEC paper) Feb 89, electron beam welding (Heraus) Mar 94, fabrication (Letters) Sept 49, *Fluidized-bed coating of UO_3 powder with niobium* etc. (report BMI 1440) Feb 88, gas pressure UO_2 bonding process (BMI) Feb 91, German AGR test facilities (Deutsche B & W) Mar 91, German reactors (M. Becker) Mar 81-4, *High power density fuel assemblies for VBWR irradiation testing* (report GEAP 3609) Aug 84, machining underwater Feb 59, *Measurement of thermal conductivity of metal-clad uranium oxide rods during irradiation* (report WAPD 228) Jan 100, ORNL decanning experiments Sept 58, pellets: automatic loading unit (Spembly) (*P*) Aug 87, stainless steel clad tests (General Atomics) Nov 65 standardization (Letters) Oct 51, *stress and deflection characteristics of N.S. Savannah-type fuel element containers due to internal to-external pressure differentials* (Babcock and Wilcox paper) Sept 82, *Uranium alloy fuel element fabrication development for HNPF Core I* (Report NAA-SR-5291) Mar 110, *Use of molten calcium in the processing of metallic fast reactor fuels* (report AERE R 2949) Feb 88, vibration packing method (US General Electric) Jan 101, vibration technique (US Babcock & Wilcox) ..... May 96
Assembly and testing of experimental fuel elements for irradiation testing (Report AECL 1288) Dec 86, *Dimensional behaviour of the EGCR fuel element at elevated temperatures* (Report ORNL 3103) Dec 86, *Summary of the fabrication and behaviour of standard uranium rods in the NRX reactor, 1947-60* (Report AECL 1298) ..... Dec 86
high power density BWR fuel under test Dec 63

Fuel elements, reprocessing: (Students) June 92, enriched (G. W. Llewelyn and R. H. Allardice) June 71-6, Eurochemic plant (T. J. Barendregt) ..... May 59-64

G

Gas bearings performance (Bristol Siddeley) (*P*) ..... Dec 64

Gas blower for EDF (SNECMA) ..... July 87

Gas centrifuge: USAEC releases information Feb 56, research project ..... Nov 60

Gas chromatograph (AERE) (*P*) ..... Oct 85

Gas circulators for Hunterston (GEC) (*P*) ..... July 88

Gas density: *Beta-ray gauges for gas density measurements* (report ORF PRR 6001) ..... June 80

General Dynamics: HTGCR flow simulator (*P*) July 88, self-regulating 2MW nuclear power plant development Aug 56, Triga range extended ..... Sept 58
50mV, 1A miniature thermoelectric element (*P*) Dec 62

General Electric Co. Ltd. APC merger Feb 53, Mar 103, English Electric merger Jan 108, May 96, gas circulators for Hunterston (*P*) July 88, graphite for fuel canning July 80, graphite pact with Japan Jan 59, pool resources with Richardsons Westgarth Aug 94, profits and loss 1960-61 Sept 90, staff cuts May 53, Windscale remote handling contract ..... Sept 90

General Electric Co. (Engineering) Ltd: new company formed ..... Dec 96

General Electric Co. (US): Cornell University fuel order Nov 94, competitive range of BWR's Sept 57, fuel element compaction by vibration ..... Jan 101

Generators: emergency engine starting device (UKAEA) ..... July 88

German Democratic republic: nuclear activities 1960 Jan 62, 25 MeV cyclotron Jan 59, isotope centre Apr 72, Poland agreement May 55, first nuclear power station Oct 55, research reactor for Dresden ..... Nov 55

German Federal Republic (*articles*) atomic energy in the German Federal Republic (S. Balke) Mar 57, financing atomic energy (S. Hollands) Mar 79, legal position (W. Borst) Mar 77, Liability and insurance (H. H. Haunschild) Mar 78, nuclear research in Western Germany (W. H. A. Hocker) Mar 60-2, reactor development (table) (J. S. Burkett) Mar 80, role of the Deutsches Atom-Forum (K. Winnaker) Mar 85, West German nuclear scene (Editorial) Mar 51, West Germany's energy position (W. Finke) Mar 58-9, organisations and companies in the nuclear field (directory) ..... Mar 86-90

German Federal Republic (*See also*: Reactors) AEC requests more research funds June 54, activities 1960 Jan 62, Argentine uranium analysed Feb 56, atomic budget agreed May 54, Baden Wuerttenberg power station investigation Jan 58, fuel re-processing — companies merge July 94, fission product work Apr 71, fusion contract—Euratom May 56, isotopes research institute—Goerttingen Jan 58, isotope users Feb 55, marine contract—Euratom Apr 71, Aug 56, nuclear ship round up May 55, nuclear ship decision soon Sept 54, nuclear ship ordered Nov 57, nuclear investment criticised Oct 56, nuclear bureau (Schleswig-Holstein) Apr 72, Nukem uranium dioxide furnace Feb 54, Peruvian uranium survey Nov 58, safety-Manneheim group May 55, Schleswig-Holstein working group on nuclear energy uses Aug 56, RWE studies 250-350 MW plant Apr 71, Aug 56
RWE tenders ..... Dec 56

Ghana: USSR to supply research reactor Dec 58

GKSS: share capital ..... Apr 114

Glasgow Royal College of Science and Technology: new high voltage laboratory ..... Sept 83

Graphite
Calder inspection (*P*) Oct 85, fuel canning (GEC) July 80, German production (Sigri) Mar 92, impermeable (Hawker Siddeley NP Co) Jan 97-8, irradiation rig (AERE (*P*) Sept 85, *Propagation of thermal waves through graphite with uniform cooling* (report AERE R 3500) ..... Feb 88

Greece: 1MW AMF research reactor and research centre completed (*P*) ..... Sept 57

Gutehoffnungshutte: heat exchanger for Kahl (*P*) ..... Mar 93

H

Hawker Siddeley N.P. Co closes down ..... May 53

Hayward Tyler: £100.000 Sizewell pump contract ..... Apr 114

Head Wrightson: Bradwell charge pans (*P*) ..... Jan 101

Heat exchangers, *Sodium Design of reliable and economical heat exchangers for high temperature sodium service* (Alco paper) ..... Nov 85

Heat Transfer Conference, IMechE/ASME, 1961 ..... Dec 87

Heat transfer: research at CERL (J. A. Hitchcock and J. Lis) ..... Dec 65-8

Heavy water
Canadian economics study June 59, German production (Linde) Mar 93, infra-red analysis (AECL) Feb 92, Savannah River reprocessing services for foreign operators ..... Sept 58

Helium: price (Letters) ..... Mar 49

Heraus: electron beam welding fuel elements ..... Mar 94

High Voltage Engineering Corporation: 5·5MeV accelerator for S. Africa ..... Oct 94

Hobson: Berkeley hot laboratory ..... May 78

Hot laboratories: 8th US Conference (E. Edmonds) ..... Feb 72-4

Hungary: nuclear activities 1960 Jan 63, cyclotron in operation Nov 54, 'Energy Centre' to be built ..... Jan 57

Hydrofluoric acid recovery (UKAEA) ..... Aug 87

Hydrogen, liquid: cross-section ..... Nov 62

I

IBM: Stretch computer for UKAEA Nov 94, Zurich research laboratory ..... July 88

India
activities 1960 Jan 69, Candu station considered Sept 57, Delhi station considered Apr 72, five year plan May 57, fuel needs revised June 58, fuel fabrication plant—Trombay May 58, heavy water plant Nov 58, isotope capacity above demand Jan 60, isotope progress Feb 57, new radioisotopes laboratory Sept 88, small stations Apr 74, Aug 58, Tarapur tenders Mar 56, May 57, Sept 59, Oct 57, 58, Nov 61, uranium search May 56, USSR agreement ..... Nov 59
Tarapur bidders ..... Dec 58

Indonesia: activities 1960 Jan 69, trainees for Russia May 57, Triga-US contribution June 56

Instrumentation: Dounreay reactors (D. Taylor) ..... May 65-7

Insurance problems, UK ..... May 54

Interatom: advanced reactor studies ..... Mar 94

International Atomic Energy Agency
biological effects of radiation meeting June 54, conference Nov 56, costing manual Jan 59, Feb 54, Director General Sept 55, 60, ENEA agreement Jan 59, fellowships cost Nov 88, Finland Triga agreement Feb 54, Finland prospects Feb 55, Foratom Sept 54, liability draft July 56, Netherlands reactor evaluated May 54, Philippine report Oct 57, plasma conference Oct 55, progress 1960 (S. Cole) Jan 71, safeguards inspectors Nov 56, Vinca dosimetry measurements Feb 54, Yugoslavia Triga May 56, Yugoslav plans for small power reactor ..... July 54
reactor symposium ..... Dec 56

International Combustion: boilers for Trawsfynydd (*P*) Aug 80, merger with Superheater Co. Ltd. ..... Aug 94

Iodine -125: production (ORNL) Nov 90, production plan (Chicago Uni.) ..... Oct 92

Ionizing Radiations Sealed Sources Regulations ..... Sept 53, Oct 56

Iran: nuclear activities 1960 ..... Jan 70

Iraq: nuclear activities 1960 Jan 70, IAEA experts visit ..... Nov 58

Irradiation of materials: alpha effect on copper ..... Oct 92

Irradiation experiments: *Correlations of power measured by thermo-dynamic and radiochemical analysis with flux wire measurements* (General Aircraft paper) ..... July 89

I

Irradiation, progress (S. Jefferson) ..... Jan 80-1

Irradiation techniques (O. S. Plail) ..... Jan 82-85, Mar 100-2, Apr 101-3, May 82-6, June 81-2

Israel: nuclear activities 1960 Jan 70, admits building second reactor Feb 56, secret reactor denied ..... Jan 60

Italy
activities 1960 Jan 63, CISE laboratories (*P*) Feb 54, Elk River fuel processing Sept 55, Enrico Fermi Centre Jan 59, Latina fuel agreement Oct 55, OEEC convention on civil liability Jan 59, OMR (30 MW) plans May 56, OMR work with Yugoslavs June 55, Ispra transferred to Euratom June 55, plans Apr 72 nuclear power competitive in 1970 July 56, nuclear ship roundup May 55, power committee Sept 55, SELNI site purchased Feb 55, SENN: reactor output increase Jan 59, Euratom fuel contract Nov 57, shipping date changed Nov 59, thorium-U233 reprocessing plant May 56, Yugoslavia agreement ..... Jan 59

J

Japan
nuclear activities 1960 Jan 69, AEC 4th annual report June 57, 5th annual report Nov 59, budget cuts May 58, critical assembly for JAERI Aug 57, fuel team visits Europe and US Mar 56, Germany visited Apr 72, JAERI sets up radiation chemistry division Feb 58, JRR-2 (*P*) Feb 58, JRR-2 progress May 58, JRR-3 second fuel load ordered Oct 57, MTR team on tour May 58, ore-carrier plans Feb 57, June 60, programme Apr 74, (Letters) Apr 65, radiation chemistry central laboratory planned Nov 90, radioisotope laboratory Feb 59, radioisotopes plant planned Nov 90, reactor total Nov 59, second power reactor June 57, Mar 56, US submarine ban Nov 58, Tokai Mura: French graphite June 56, delay Nov 58, USSR agreement ..... Aug 57
Euratom agreement Dec 57, MTR plans Dec 59

Johnson Matthey: control Swedish A/B Gosta Nystrom ..... Jan 108

K

Kent, George: Trawsfynydd instrumentation order ..... Nov 94

Korea: nuclear activities 1960 Jan 69, Triga at Seoul starts up ..... Feb 56

L

Linde: heavy water production, Germany Mar 93

Liquid level monitor (UKAEA) ..... Feb 92

London University: subsidy for £2M Atlas computer ..... Dec 85

M

Magnetohydrodynamics: *MHD Power research in the UK* (Parsons' paper) ..... May 93

Magnets: superconducting (Westinghouse and RCA) ..... Nov 62

Magnox: welding stainless steel (British Oxygen) ..... Jan 102

Manipulators (*See also*: Remote handling): development at ANL and Esso Research ..... May 87

Mannesmann: pressure vessel research ..... Mar 94

Martin Co Ltd: SNAP Pu-238 generators (*P*) Aug 92, Nov 90, radioisotope powered weather station (*P*) ..... Sept 88

Materials, radiation damage: CEGB Berkeley Conference (G. E. Darwin and A. A. Johnson) ..... Aug 64-5

Metallurgy: teaching engineers ..... Jan 99

Middlesex Hospital Medical School: Institute of Nuclear Medicine proposed Nov 90

Mitchell Engineering: Italian BWR study June 54

Monte Carlo programme for calculating high energy spectra cylindrical geometry, etc. (Report AEEW R 45) ..... Feb 88

Montecatini: industrial research ..... Apr 105

Morganite Research and Development Ltd: high temperature thermocouples ..... June 70

Morocco: reactor study for steam production ..... Aug 57

Mullard Equipment Ltd: 4·3MeV mobile accelerator for radiography ....Feb 90

N

National Bureau of Standards: 50,000 curie cobalt-60 source Sept 85, new laboratories ....Oct 86

Netherlands
nuclear activities 1960 Jan 63, Dutch Atom Forum formed May 96, LFR research reactor (*P*) Feb 55, Neratoom to build Dragon core support Mar 52, Neratoom reactor design study for Euratom Aug 53, Petten reactor centre (*P*) Feb 54, transferred to Euratom Oct 56, Petten high flux reactor safety May 54, RCN annual report Nov 54, RCN marine reactor agreement with Euratom Aug 56, *Savannah* visit Apr 72, SEP group-GEC (US) 50 MW BWR study ....Aug 55

Neutron cross section evaluation group newsletter no. 2 1960 (Report BNL 634) ....Jan 100

Neutron detectors: *Fission measurement with surface barrier solid state ionization chambers* (Report AERE R3524) ....Apr 111

Neutron flux: escape probabilities outside self-absorbing cylindrical sources (E. W. Sidebotham) ....Dec 70-4

Neutron flux calibration (NBS) ....May 88

Neutron flux measurement: *Influence of the gamma background on the measurement ranges of neutron detectors in DR2* (Danish AEC report 24) Oct 83, *Measurement of fast neutron flux using the S-32 (n,p) P-32 reaction* (Report AERE R 3443) ....May 93

Neutron sources for Bradwell and Berkeley ....Sept 85

New Zealand: nuclear activities 1960 ....Jan 70

Niobium: *Development of high-strength niobium-alloys, etc.* (Report BMI-1417) Feb 88

Nitrogen, high purity for UKAEA (Petrocarbon) (*P*) ....Apr 104

Northwestern University, Illinois: new materials research centre ....Aug 90

Norway
nuclear activities 1960 Jan 63, Halden fuel experiments Apr 72, June 55, Institutt for Atomenergi report Sept 54, JEEP resumes operations Jan 58, NORA zero energy reactor assemby (*P*) Jan 57, nuclear ship possibility Aug 56, reprocessing plant starts Oct 56, UAR agreement Feb 54, USSR agreement ....Apr 72

Nuclear Developments Ltd: formation ....May 55, June 77

Nuclear Enterprises: human body monitor for Karlsruhe ....Feb 92

Nuclear Graphite Ltd: redundancy ....Apr 71

Nuclear power economics (Editorial) ....Sept 51

Nuclear Power Group, The: profits and loss ....June 87

Nuclear Propulsion—Aircraft and Rockets
US Nuclear Engine for Rocket Vehicle Propulsion contract Sept 58, flight test 1966-7 Nov 59, US rocket engine proposals Feb 56, US SNAP reactor progress Feb 58, US SNAP-2's third reactor critical May 56, US TORY IIA-1 ramjet tested Sept 59, US turbo-jet power plant flight tests ....Apr 74
Kiwi test delayed ....Dec 58

Nuclear Propulsion—Marine
(*See also*: Euratom, France, Germany)
digital computers cut plant costs ....Dec 64
Enterprise aircraft carrier trials ....Dec 58
gas turbines (Letters) ....Dec 51
Interatom marine reactor design (F. E. Faris) ....Mar 75-6
Japanese-German agreement May 96, Japanese ore-carrier plans ....Feb 57, June 60
Lenin progress Jan 60, uranium consumption ....Sept 57
Lloyd's Register of Shipping Rules and Nuclear Ships ....May 93
nuclear ship propulsion—IAEA symposium (R. Anscomb) ....Jan 86-8
nuclear ship indecision (Editorial) May 51, (Letters) ....July 49
nuclear ship design (Letters) ....Aug 49
nuclear ships uneconomical (Letters) ....Aug 49
Savannah: fuel elements delivered Feb 57, AEC safety hearings June 59, tests scheduled Aug 58, fuelling starts Sept 59, fuel loading delayed ....Nov 60
fitting out (*P*) ....Dec 60
second UK submarine Mar 54, keel to be laid ....Feb 53
Three design studies for selecting a prototype reactor for a nuclear tanker (USAEC report TID-8528) ....Jan 100
UK budget slashed ....Apr 72, Aug 54
UK Government decision ....Dec 56
US icebreaker feasibility project ....Apr 72

Nucleate boiling: *Measurement of rapid surface temperature fluctuations during nucleate boiling of water* (Kansas Un. paper) Aug 84, *Statistical analysis of nucleate pool boiling data* (Ethyl Corp. paper) ....Oct 83

O

Organic coolants and moderators
Irradiation of Santowax-R with fission fragments (Report AERE M715) Jan 100, *Radiation and thermal stability of some potential organic moderator—coolants. Part iv, chemical determinations in BEPO* (Report AERE R 3564) ....July 89
Fast neutron damage to polyphenyl coolants (AI paper) ....Dec 86

Oxford University: new nuclear research centre ....July 63

P

Pakistan
nuclear activities 1960 Jan 70, Institute of Nuclear Science June 58, (*P*) Sept 59, power reactors: Nov 58, US aid Aug 57, plans for three stations June 57, UK agreement Nov 58

Parsons, C. A.: new engineering laboratory (*P*) ....Nov 63

Peru: GEC(US) reactor project ....Oct 57

Petrocarbon: high purity nitrogen for UKAEA (*P*) ....Apr 104

Philippines: nuclear activities 1960 Jan 70, IAEA power review Oct 57, 1MW reactor (*P*) ....Nov 58

Physical Society Exhibition, 1961 ....Feb 83-6

Pipes: inspection by television (Pye) ....Jan 102

Plutonium in reactors, use (M. B. Waldron) July 58-62, (Students) ....July 92

Plutonium: new AEC charges Jan 108, UK plans (Editorial) ....July 51

Plutonium-238 generators for SNAP (Martin) (*P*) ....Aug 92, Nov 90

Poland
nuclear activities 1960 Jan 64, hot chamber June 56, Krakow conference Sept 55, third reactor to be built June 55, E. Germany agreement May 55, Italy agreement Feb 53, USSR aid for second research reactor ....Oct 55

Portugal
nuclear activities 1960 Jan 64, research centre delay Mar 56, new sources of energy study May 55, 1MW reactor installed (*P*) June 58 power station study ....Oct 56

Powder metallurgy: Fourth International Plansee Seminar (J. W. Taylor) ....Oct 78

Powell Duffryn: 1960-61 report ....Oct 94

Pressure vessels: (Mannesmann) Mar 94, band reinforcement (J. Thompson) (*P*) Nov 64,, rings (Darlington Forge) June 84, stress relieving at Hunterston (*P*) ....Nov 64

Process chemistry, progress (G. R. Hall) ....Jan 79-80

Public opinion polls, USA ....Jan 92

Pumps in atomic energy: survey ....July 68-73

Pumps: controlled leakage, for Pathfinder BWR (R. A. Haugen) ....July 74

Pumps: glandless heavy water (D. W. Jamieson) ....July 75-6

Pumps: rotary, for hydrofluoric acid (UKAEA) ....Feb 92

Pye: AMF licensing agreement ....Jan 108

Products (New Products Survey)
Amplifiers
d.c. ASC101 (Intertechnique) May 91, 466A transistorized (Hewlett-Packard) July 91, N-337 linear (Hamner) (*P*) ....Nov 86

Ball screws and splines (Bristol Siddeley) May 78

Blowers: gas (Holmes-Connersville) Feb. 96, CO_2 circulator (Plannair) ....May 80

Boilers
Packaged "Demipac" (J. Thompson) May 79, radiant heat (Fraser) May 79, supercritical (Babcock & Wilcox) (International Combustion) May 79, 'Swirlyflo' MKIII (Spanner) May 79

Burst-slug detection: selector valve (CAV) ....May 78

Boron silicide (Allis-Chalmers) ....Nov 87

Brazing, vacuum furnace (Vacuum Research) ....Apr 106

Cable sheathing (British Geon) ....Feb 96

Capacitor metallized film (Torvac) ....Dec 90

Cathode ray tubes
accessories (General Dynamics Electronics) Oct 88, discharge trigger (Mullard) Feb 86, double-gun acceleration (M-O Valve) Oct 89, phosphor (Electric Tubes) Feb 86, post-deflexion acceleration (GEC) Feb 86, rectangular flat faced (20th Century) ....Feb 86

Chemical analysis by radioactivity (Tracerlab) ....Apr 106

Compressors: (Broomwade) (Godfrey) (Holland Engineering) (Reavell) (Wellworthy) May 80, air TT6 (Atlas Copco) ....Jan 106

Computer control: PowerMag solid state system (Hagan) ....Aug 89

Computers-analogue: TR-5 mounting unit (Electronic Associates) ....July 91

Computers-digital: Stretch (IBM) ....Oct 86

Computers-digital: ICT 1301 ....Dec 88

Concrete drills (Coventry Compressors) May 91

Concrete fasteners 'Rawlties' and 'Rawlplugs' (Rawlplug Co.) ....Jan 102

Cooling towers: (Head Wrightson) (Film Cooling) ....May 80

Corrosion prevention: 'Corrosometer' control (Winston) Sept 87, Galvafroid-Micanox paint (Secomastic) Jan 106, Apr 109, plastic coating (Evershield) Feb 96, resin wall coating (Lloyds Packing) ....Nov 87

Counters: decade (Winston) ....Oct 89

Data handling systems: AWRE (UKAEA) Feb 86, 'Sceptre' discharge (AEI) ....Feb 86

Data processing equipment
analogue-digital converter (Fernsteurergerate) Mar 105, analogue-digital converter 'Digisyn' (Wayne George) Feb 96 'Dataflex' printed board (Ericsson) Feb 86, digital printer (Kienzle) Mar 105, digital store (International Computers) Feb 86, 'Surveytron' digital printer (Radiation) Jan 106, tape transport mechanism (Redifon) Jan 106, thin film (Remington-Rand) ....May 91
ED1035-6 high speed printers (Solartron) (*P*) Dec 89, 'MicroSADIC' analogue/digital converter (Consolidated Systems) (*P*) ....Dec 90

Density gauge 'Qualicon' (Nuclear Chicago) (*P*) ....Sept 86

Diamond coated tools (Dia-Chrome) ....Aug 86

Diesel engines (Motoren-Werke Mannheim) ....Mar 105

Diodes: subminiature glass zener (International Rectifier) ....Nov 87

Ducting: reinforcement rings (Darlington) May 78, spirally-wound (Hargreaves) ....Aug 89

Electrical connexions: solderless (Sealectro) ....Nov 87

Electrical measurements: multi-range meter UPHI (Aveley) ....Aug 89

Electronics tester LA-303 (Lavoie) (*P*) ....Oct 88

Electronics tester: 'Score' automatic (Elliott) (*P*) ....Dec 89

Fans: axial (Blackman) May 78, tangential (Solartron) ....May 91

Feedwater analyser 58A (Electric Instruments) ....Feb 94

Filters
Air unit adapted (Cimex) (*P*) July 90, gas (Delbag) Mar 105, porous p.t.f.e. (Bound Brook Bearings) Jan 102 (Dallow-Lambert) (Martonair) (Auto-Klean) (Intermit) 'Unipak' 'Unimaster' (Vokes) ....May 80
'Dalamatic' automatic dust (Dallow Lambert) (*P*) Dec 88, Isokinetic gas sampler (Visco) Dec 89

Fire-proof fabric (Herculite 20) ....Apr 109

Fission counters: up to 850°C (20th Century) ....Feb 85

Flaw detector: gamma image intensifier (Zenith Radio) ....Aug 89

Floor covering, epoxy resin (Corrosion Chemical) ....May 91

Flow measurement
Arkon ball (Walker Crosweller) Oct 89, differential pressure flowmeter (Lintronic) Feb 86, electromagnetic (Fischer & Porter) May 91, Flowmeter (Langham Thompson) Feb 86, gas flow monitor (Hastings-Raydist) (*P*) Apr 109, high temperature liquids (Meterflow) (*P*) Oct 87, magnetic (UKAEA) Feb 86, radioactive rotameter (DSIR) ....Feb 84
202 recorder (AEI) ....Dec 90

Frequency measurement: TSA3336 equipment (Venner) ....June 89

Fuel elements: leak detection spectrometer (20th Century) (*P*) ....Aug 88

Furnaces: 1050-1500°C (Shandon) Apr 108, induction (Edwards) ....Sept 87

Gas analysers: (Consolidated Electrodynamics) (P) Apr 108, (Virus) Mar 104, infra red—chromatography (UKAEA) ....Feb 86

Gas circuits (Richardsons, Westgarth) May 78

Gas coupling (Fluidrive) ....May 78

Gas flow counters: FD series geiger-proportional (Tracerlab) ....June 89

Gas moisture meter, AWRE (Shaw) ....Apr 107

Gas purifier (Deoxo) ....Feb 95

Gases, liquefied (BOC) ....Apr 109

Gears
epicyclic planetary (W. H. Allen) May 80

Glass: high temperature (Corning) May 88, low radioactivity (Corning) ....Feb 96

Glove boxes: (Townsend and Mercer) Feb 84, controlled atmos. (Gallenkamp) Feb 84, seals (Dowty) (*P*) ....Apr 107

Graph plotter: automatic QL (Benson-Lehner) ....Jan 106

Hardness tester (Metallurgical Services) Oct 89

Heat exchangers: 'Intergron' units (ICI) May 79, ripple finned tubing (Spiro--Gills) May 80, tubes (Clayton) ....May 79

Heaters—induction: (English Electric) Feb 96 E9ZS (Delapena) June 89, 150 Kc/s (Delapena) ....Nov 87

Heaters: spiral tube (Spiral Tube) ....May 80

Heating elements: flat foil (MEI) (*P*) May 89

Ignitrons, coaxial (AEI) ....Dec 90

Image intensifier (20th Century) ....Jan 102

Instrument warning device (Sealy) (*P*) Aug 88

Insulation: asbestos (Cape Asbestos) (Turner & Newall) May 80, polyurethane foam (Newalls) May 80, silicone resin impregnation (Midland Silicones) Nov 87, super-magnesia (Chemical & Insulating) ....May 80

Interference comparator (Zeiss) ....June 86

Irradiation units: gamma container (Solus-Schall) (*P*) Jan 104, 'Gammacell' Co-60 units (AECL per Watson) ....May 78, Sept 88

Joint filler, waterproof (Hydrocor) ....May 91

Leak detector: mass spectrometer 700 (Crosby-Teletronics) Feb 96, 24-510 'Radiflo' (CEC) ....Sept 87

Level control: LR8 panels (Elcontrol) Aug 89

Level indicators: 'Levelrator' (Thomas Industrial) ....May 89

Lift truck (Hyster) ....Dec 90

Linear measurement (Reilly) ....May 90

Liquid metals impurities meter (Bruce Peebles) (*P*) ....June 88

Load moving castors (Autoset) ....Apr 109

Lubrication: 'Moly-Vl-Bond' coating (Paul) ....Aug 89

Magnesium alloy 'Magzan 2' (AEI) ....July 88
Magnesium oxide (Semi-Elements) Feb 92, Feb 96
Manometer, vacuum (NGN) ..... June 89
Mercury, high purity (Johnson Matthey) July 91
Metal coating: 'Speedivac' units (Edwards) (*P*) .....Dec 88
Metal cutter, tungsten-carbide (Hoy) ..Oct 89
Metal spraying pistol Mk 33 (Metallisation) .....Nov 87
Milling machine: radioactive materials (Adcock & Shipley) (*P*) .....Aug 86
Moisture analyzer Type 4-326 (Consolidated Electrodynamics) .....Dec 90
Moisture gauge (N680) (Ekco) .....Feb 84
Moisture indicator (Shaw) .....Sept 87
Neutron absorbers (Elektroschmelzwerk Kempten) .....Mar 105
Neutron detectors: (Plessey) (*P*) Jan 104, PNI 1077 series (Plessey) Oct 87, NE421 (Nuclear Enterprises) .....Aug 89
Neutron generators
NGH150 (20th Century) (*P*) Apr 107, 9500 (Nuclear Chicago) (*P*) Aug 89, 125 KeV source (Mullard) Feb 84, 10^8 neutron/s (Services Electronics R.A.) Feb 85, 10^{10} neutrons (20th Century) .....Feb 84
Neutron sources: modified Pu-Be units (Nuclear Materials) .....Sept 88
Nucleonic instruments (Frieseke and Hoepfner) Mar 104, transistorized series (Nuclear Enterprises) (*P*) .....Nov 86
Oscilloscopes
CD1014.2 double-beam (Solartron) (*P*) Apr 107 differential double beam (Furzehill) Feb 85, general purpose CD1012, single beam CD1015 (Solartron) Feb 86, high speed 294 (Airmec) Feb 85, miniature double beam (Solartron) Jan 106, rackmounted double-beam CD1016 (Solartron) Aug 89, two-channel wide band 321 (Nagard) Feb 85, wide-band WM16 (EMI) .....Jan 106
Du Mont 403B (Aveley) .....Dec 90
Oscilloscope cameras: 405 (Langham Thompson), 1458 (Cossor) .....Feb 86
Oxygen analyser (Distillers) .....June 89
Periscopes (Hensoldt) .....Mar 104
Permanent magnets, Platinex II (Johnson Matthey) .....Nov 87
pH meter, portable (Stevens) (*P*) .....June 88
Phase meter 630 (Dawe) .....Jan 106
Pipeline control: Dressler system (Rotax) (*P*) .....Aug 88
Pipes: corrugated (Aiton) May 81, 'Epoch' flexible (Bristol Plastic) (*P*) .....Nov 87
Planer table, electronic (Kearns) .....July 91
Pneumatic control units 59D, 59R (AEI) Oct 89
Polarograph: UKAEA (Nash & Thompson) .....Feb 86
Potentiometers: linearity tester (Miles) Apr 106, miniature PT5 (Miniature Electronics) Feb 96, 33-tap MCD (Miles) .....Apr 109
Power supply: high voltage N-4050 (Hamner) June 89, stabilized EV451A (Allied Electronics) .....July 91
5-60V (Thompson) .....Dec 90
Pressure amplifier (Negretti) .....Jan 106
Pressure measurement: 10^{-3} torr gauge (Mullard) .....Feb 86
Pressure transducers: (Cambridge), BP2 (Langham Thompson): (New Electric) Feb 86, 4-350 (Consolidated Electrodynamics) ....Sept 87
Strain gauge Type 4-326 (Consolidated Electrodynamics) .....Dec 90
Pressure vessels: band reinforcement (J. Thompson) .....May 78
Profile polishing machine CFT.40 (Morris) .....June 89
Protective clothing: (Miller Rayner) Apr 109, disposable-fire-resistant (General Scientific Equipment) Oct 89, intercommunication system (Spembly) .....Apr 109
Pulse analysers: N-328 (Hamner) (*P*) July 90, transistorized 400-channel (Technical Measurement) .....July 90
Pulse generators
(Du Mont) (*P*) Feb 96, GO 1005 (Solartron) Feb 85,, GT10 three-pulse (Intertechnique) (*P*) June 88, M640 (Winston) (*P*) Apr 108, P131 (Wayne Kerr) Feb 85, twin channel TPG 102 (Marshall) Feb 85, 1097 (Cossor) Feb 85, 5101 (Nagard) .....Feb 85
Pulse height analysers: 99-channel (Plessey) Feb 85, single channel (Isotope Dev.) .....Feb 85
Pulse polarograph (Southern Instruments) (*P*) .....Feb 95
Pumps
'Aquair' rotary vacuum (Drysdale) May 80, centrifugal 1AS51 (Girdlestone) (*P*) Apr 107, gases and liquids (Hofer) Mar 105, 'H' type reciprocating piston (Tangyes) May 80, high pressure air (Madan) July 91, high pressure piston 'Vardel' (Dowty) May 80, hydraulic 447 (Hobson) May 80, impeller a.c. (Jones & Stevens (*P*) Nov 87, Leblanc rotary (Mirrlees) May 80, piston (Lucas) May 80, piston (Walbersdorf) (*P*) May 105, positive displacement 'Supaversal' (Neumo) Jan 106, power station (Gwynnes) May 80, pulseless axial flow (Goodvear) May 80, 'Reciprotor' vacuum/pressure (Edwards) Aug 89, rotary vacuum (NGN) Oct 89, sealed (KSB) (*P*) Mar 105, self-priming UPL, UHL (British Labour) May 80, verticle centrifugal 'Dolphin' (Hamworthy) .....May 80
'Electri-Cand' liquid (Allis-Chalmers) (*P*) .....Dec 88
Radiation detectors
(Berthold) Mar 104, (Nuclear Enterprises) May 79, (Oak Ridge Technical Enterprises) June 89, dual-purpose (International Civil Defence Org) Jan 102, pocket (Physikalisch-Technische) Mar 104, PW4015 battery operated (Philips) (*P*) Oct 88, Silicon (Semi-Elements) May 91, solid state (Semi-Elements) .... Feb 95
Type PNI 1118 gamma (Plessey) (*P*) ....Dec 88
Radiation detectors—counters
A-500 universal (Hamner) (*P*) May 89, 'Amatron' geiger (Photoelectronics) May 91, amplifier-analyser 250 (Baird-Atomic) Jan 104, 'Logic 801' (*P*) (Nuclear Chicago) May 90, N667 scaler (Ekco) Feb 84, PNI 1091 ionization chamber (Plessey) Nov 87, SW12 G.M. tube (20th Century .....Feb 83
Radiation detectors—scintillation counters
(Ericsson) Feb 84, (Panax) Feb 84, BP4 beta probe (EMI) Feb 84, 1880 Electrometer (Isotope Dev.) Feb 83, photomultiplier tubes (20th Century), (EMI) .....Feb 84
Radiation detectors—scintillators
Nuclear Enterprises (*P*) Sept 86, GSI glass (Nash & Thompson) Feb 84, 'Liquifor' (Pilot Chemicals) Feb 96, NE 150 plastic phosphate, etc (Nuclear Enterprises) Feb 84, reflector paint (Nuclear Enterprises) .....June 89
Radiation monitors
cadmium sulphide (AEI) Feb 83, hand and foot (Stonebridge) (*P*) Feb 94, milk (Plessey) May 79, NE148 (Gen. Radiological) Feb 83, nuclear ships (Tracerlab) June 86, ORNL pocket type (*P*) Feb 92, PRM pocket type (Numec) (Radiation Equipment) (*P*) Sept 86, SMI low activity, HM2 hand (EMI) Feb 83, water, ND.2151 (Elliott) (*P*) Feb 95, 1641 gamma (Redcliffe) (*P*) Oct 89, 1657A probe (*P*) (Avo) May 90, 2586-S survey meter (Nuclear-Chicago) (*P*) ..Apr 109
Radiation warning labels (Continental Distributors) .....Feb 96
Radiation therapy: cobalt-60 'Orbitron' unit (AEI) June 86, 'Syftor' (AMF) (*P*) ....Oct 86
Radiography: mobile (Pantak) May 79, portable X-rav units (Research and Control) (*P*) Feb 95, X-ray image intensifier (Tracerlab) Feb 95, tungsten shielded machine (Panatron) ..Oct 92
Radioisotopes: (Radium-Chemie) Mar 105, (US Nuclear) .....Jan 106
Ratemeter, dose: (Labgear) Feb 83, NE206 and 207 (Gen. Radiological) Feb 83, 1532A (Avo) .....Feb 83
Reactor period meter (Kirem) .....Mar 104
Refractory coatings, 2000°C (Corrosion Ltd) .....May 89
Recorder: 14-channel ultragraph (Abem) Sept 87
Recorder: multi-point (Honeywell) ....May 91
Recorder: potentiometric (Smiths) .....Apr 109
Remote handling equipment
manipulators (Nuclear Equipment) (*P*) Feb 94, mechanical arms 150 (General Mills) Apr 106, Mobot Mk II manipulator (Hughes Aircraft) (*P*) Apr 106, sea water use (General Mills) .....June 86
Respirators (Mine Safety) (*P*) .....Oct 88
Salt water 'Aquavap' distillation (AMF) ..May 78
Sample changers: (Labgear) 2014 (Isotope Dev.) Feb 84, SC-100 'Multi-Matic' (Tracerlab) .....May 91
Scaler, computer (*P*) (Automation Inc.) ..June 89
Seals, 'Bar-X' all-metal ring (Aero Controls) (*P*) .....Nov 86
Seals, mechanical: type DD (Flexibox) (*P*) Sept 86, up to 2000lbf/in² (Sealol) ....Oct 88
Shielding blocks (Chance Pilkington) ..May 91
Shielding materials: (Frank & Schulte) Mar 105, Boroplast (ICI) .....June 89
Signal generator 900B (Jerrold) .....Dec 88
Signal level recorder (Bruel & Kjoer) ....Jan 104
Soil density meter (Soil Mechanics) ....Feb 94
Spectrograph Polyvac 12 (Hilger & Watts) Oct 89
Spectrometer, gamma (Ekco) .....Feb 83
Spectrometer, mass (Atlas-Werke) .....Mar 104
Spectrometer, plutonium (Intertechnique) (*P*) .....Jan 104
Spectrophotometer, transistorized 115D (Labgear) .....July 91
Spectrophotometers: special glass (Corning) .....Feb 96
Speed changer 'Vari-Tex' (Allis Chalmers)
Steam trap 'Mil Thermatic' (Midland Industries) .....Feb 96
Steel, superheater HT9 (Sandvik) .....Oct 87
Switches: 9001 TP illuminated (Square D) Jan 106, water-proof microseal (Dowty) ..June 89
'Cromwell' fuse (GEC) Dec. 90, toggle (Dowty) .....Dec. 90
Tape recorder, miniature (Consolidated Electrodynamics) .....May 88
Television
closed-circuit camera (EMI) June 89, closed circuit recording unit TF 1323A (Marconi) Aug 89, MW13-38 tube (Mullard) July 91, stereo (Stereotronics) June 88, 'Tele-Eye' system (Grundig) .....Mar 104
colour projector (Marconi) Dec 90, projection tubes (English Electric) .....Dec 90
Temperature control
automatic pyrometer (Atomics International) (*P*) July 88, mercury-in-steel (British Rototherm) Nov 87, saturable reactor (CNS Instruments) Feb 86, TM thermostat (Satchwell) ....June 89
Type 3556 indicating unit.(Foster) ....Dec 90
Temperature trip amplifier AT840 (Ultra) (*P*) .....Apr 108
Temperature measurement: infra-red television camera tube (EMI) .....Feb 96
Tensile tester, micro- (TI) .....May 88
Thermobalance 'Massflow' (Stanton) .....Oct 89
Thermocouples
graphite, silicon carbide/graphite (Morgan) Feb 86, hot roll (Cambridge) Feb 86, 4200°F limit (Honeywell) Nov 86, joints (West) Jan 106
Thermometers: multirange thermistor (Cambridge) Feb 86, surface temperature (Pullin) Feb 86, 'Thermodot' infra-red (West) ..Sep 87
Thickness gauges: (Ekco) Feb 84, audio (Metallisation) (*P*) May 91, portable ultrasonic 1103 (Dawe) (*P*) .....Nov 86
Time meter, elapsed (English Electric) ..Oct 89
Timers: pre-set and elapsed N804 (Hamner) .....July 91
Timing unit N108 (Dynatron) .....Apr 109
Transformers, variable 120W (Philips) ..Jan 106
Transistor tester T.T.I. (Advance Components) (*P*) .....Sept 87
Transistors: bi-directional (RCA) Jan 106, silicon carbide (Westinghouse) Apr 106, silicon epitaxial (Texas) .....Apr 109
Triodes, water-cooled 7835 (RCA) ....July 91
Tube profilers: 3in-12in (Hancock) (*P*) July 90, 'Tubefile 18' (General Precision) (*P*) ..Oct 87
Tube joints (Access Equipment) .....Apr 109
Tubes: resonance bending fatigue machine (Stewarts & Lloyds) May 81, steel (British Ermeto) June 89, superheater (Tubes Ltd) .....May 80
Tubes flexible: 'Jetflex' (Power Flexible Tubing) Sept 87, 'Plessiflex' (Power Auxiliaries) May 78
Ultrasonic cleaning: LG-3500A 'Sonogen' generator (Branson) Sept 87, transistorized LG-75 (Branson) .....Jan 106
Uranium and samarium optical masers (IBM) .....Apr 106
Uranium carbide (Vitro) .....May 91
Vacuum cleaner 'Vulture' (Cimex) ....Apr 109
Vacuum gauge: cold cathode (Pulsometer) .....Apr 107
Vacuum plant (E. Leybold) .....Mar 105
Valve actuators, rotary (English Electric) May 81
Valves
air flow (Muntz) May 80, ball (UK Worcester) (*P*) Oct 89, diaphragm miniature (*P*) Aug 89, diesel starting (Pyropress) May 80, electromechanical (IV Pressure Controllers) (*P*) July 91, gate and globe, bonnetless, (Newman Hender) (*P*) July 90, globe, heavy-duty (Crosby) (*P*) June 88, heavy water (*P*) (Dingler) May 90, 'Kernon' (Harlow) May 81, 'Newman-Velan' gate and globe (Newman, Hender) May 81, remotely controlled inline (Flight Refuelling) May 78, S700 range (Martonair) May 80, small bore isolation cocks (Teddington) May 78, Type 60 gunmetal (Simplifix) Oct 89, (Crane) (Copes) .....May 81
'Bascodur' lined (IV Pressure Controllers) (*P*) Dec 89, steam line (Bailey) .....Dec 90
Valves (electronic), water cooled (AEI) ..Apr 109
Vibrator, multi- : micro-miniature (Texas) .....Aug 87
Voltage stabilizer TS-I (Lyon) .....Dec 90
Voltmeter, digital: LM 902.2R (*P*) (Solartron) Sept 87, (Cubic Corp.) .....Nov 87
Water distillation (Bennis Thermoflash) (Weir) .....May 80
Water monitoring (Radiovisor) (*P*) May 89
Water purifier: Mk7 portable 'Demin-rolit' (Permutit) .....Sept 87
Water sampler (Elcontrol) .....Feb 96
Weld inspection: ultrasonic scanner 'Sonoray 5' (Branson) (*P*) .....Aug 88
Welding
arc: 'Port-el-Arc' (Max Arc) (*P*) May 90, arc: generator (Petbow) Feb 96, arc: semi-automatic (Rockweld) (*P*) Jan 104, argonarc spot welding torch (BOC) Jan 106, electro-slag 'Subarc' (BOC) (*P*) Oct 86, electrode holder 'Terrier' (Interlas) June 89, orbital welding head (Palmer Aero) (*P*) Oct 85, 350A 'Tec' spot gun July 91, welder-cutter 'Double Duty Demon' (*P*) Oct 87, Engineering Exhibition .....May 81

Q

Queen Mary College: generalized electrical machine .....Nov 88
Queen's University, Belfast: Deuce digital computer gift .....July 92

R

Radiation: NBS calculation method ....July 87
Radiation detectors
automatic counting vehicle (Baird-Atomic) .....Jan 102
criticality protection of chemical plants (D. K. Cartwright and M. J. Todd) .....Oct 79-82
Development of a beta-ray particle size analyser (Report NYO 2655) .....Feb 88
Effects of variations in the ambient air on dosemeters (NPL report) .....Jan 100
mobile radiation laboratory (Frieseke & Hoepfner) (*P*) .....Mar 95
The identification of beta-emitting isotopes by liquid scintillation counting (report AERE R 3605) .....July 89
Low energy beta probe (Report AERE M771) .....Feb 88

progress in nucleonic instrumentation (Taylor, D.) ....Jan 77-9
A remote reading gamma dose-rate meter, etc. (Report AERE R 3532) ....May 93
Radiation Dynamics: equipment for new Paris and Tokyo irradiation service centres ..Oct 92
Radiation fuel gauge for aircraft (Atomics International) ....Sept 88
Radiation health and safety qualification: City and Guilds examination ....Sept 83
Radiation laboratory — Brookhaven, one million curies Co-60 source material Nov 90
Radiation level: *District gamma radiation survey around AERE Harwell*, 1958 & 1959 (Report AERE M. 71) ....June 80
Radiation safety regulations (Letters) ....June 49
Radioactive waste disposal (USAEC, Hanford) ....Apr 104
ceramic sponges (LASL) ....Nov 64
Recent developments in the processing and ultimate disposal of high-level radioactive waste (USAEC Paper) ....Aug 84
Solidification of radioactive liquid waste by pot calcination (Report ORNL-60-8-89) July 89
Radioisotope laboratory design (Risö Report 26) ....Dec 86
Radioisotope load/unload flask, BEPO ....Dec 62
Radioisotopes
East Germany ....June 87
France: 1960 exports ....Dec 92
German imports ....Dec 92
Isotope Review ....Aug 92, Sept 88, Oct 92, Nov 90, Dec 92
multi-source container (S. Africa Bureau of Standards) (*P*) ....Apr 105
production from USAEC underground tests ....Dec 64
production in reactors (R. West) ....Feb 60-2
production in special laboratories (C. Fisher) ....Feb 63-5
USSR: sales ....Dec 92
Radioisotopes—applications
article (Iggulden, D.) ....Feb 66-7
Application of intrinsic radiotracers to the control of an iron precipitation process (BMI paper) ....Oct 83
5W caesium-137 generator (Royal Research Corp) ....Dec 92
industry neglects (S. Hollands) ....Feb 68
leak in buried heating system ....Dec 92
mining application (NCB) ....Feb 92
pipeline inspection ....June 86
powered weather station (Martin) (*P*) ....Sept 88
thickness measurement: USSR ....May 88
tracer use for silt flow ....Feb 57, Apr 73
tritium tagging for underground lake ..Oct 92
use by industry (Editorial) ....Feb 51
Uses of neutron activation analysis in chemical process control (A & M College of Texas paper) ....Oct 83
applications: USSR ....June 83
RCA: superconducting magnet development ....Nov 62

Reactors—General
black void reactor concept ....Nov 64
Comparison of methods of measuring k excess (GEC paper) Apr 111
Effect of temperature on xenon instability (BNL paper) ....Feb 89
Kinetic studies of heterogenous water reactors (Report RWD-RL-190) ....Nov 85
Plutonium Recycle Reactor fuel scheduling (GEC paper) ....Feb 89
Power noise transfer function of a reactor (Report NAA-SR-4197) ....Apr 111
progress in reactor engineering (R.F.W. Guard) ....Jan 74-77
reactor fortunes (Editorial) ....Jan 55
reactor safety (J. F. Croft) ....Aug 76-9
reactor shut-down device (Atomics International) (*P*) ....Jan 102
solution of reactor dynamic equations (W. A. Havranek and T. M. Kierans) ....Feb 77-80
spectral shift reactor contract (Babcock & Wilcox) ....Sept 90
Economics of spectral shift control (B & W paper) ....Mar 110
Thermionic reactor systems (General Atomic's paper) ....Feb 89
ultrasonics to increase heat transfer in BWR's: contract ....Feb 57
World reactors—chart ....Jan 70
zirconium hydride moderator studies (Interatom) ....Mar 94

Reactors—Power and Experimental
Feasibility of an unattended nuclear power plant (Report ORNL-2985) ....Feb 89
The economics of small power reactors (Shell report A5-61) ....June 80

BOILING WATER REACTORS
An integrated radioactive water purification and cooling system for boiling water reactors (Allis-Chalmers report 43R 9991) ....Sept 82
The technical and economic status of central station boiling water reactors (GEC paper) ....Sept 82
Berlin power reactor study (BEWAG, Westinghouse) ....Aug 55
BONUS: containment building ready Sept 58, fuel ordered ....Nov 60
Danish 210 MW dual cycle study ....Nov 57
Dresden: modifications Nov 62, control rod failure Jan 60, May 58, limited operation authorization ....June 58
Elk River: pressure vessel cracks ....Sept 58
Humboldt Bay started ....June 59
Humbolt Bay pressure vessel (*P*) ....Dec 57
Italian BWR study by Mitchell for Larderello ....June 54
Italian and Euratom 25MW BWR project Sept 60
Kahl nuclear power station (H. J. Bruchner) ....Mar 67-70
Kahl: control rods (Letters) July 49, heat exchanger (Gutehoffnungshutte) Mar 93, power up Aug 56, progress ....Apr 72
Pathfinder pressure vessel (*P*) ....Aug 86
Pathfinder fuel transfer system (*P*) ....Dec 63
325MW plant for Bodega Bay ....Aug 56
Reactor operating aspects of the kinetic experiment water boiler (KEWB) program (A.I. paper) ....Oct 83
Vallecitos design changes Sept 57, permission to build ....Sept 59

FAST REACTORS
Dounreay, new core (*P*) Feb 53, entrainment ....June 54
tests scheduled ....Dec 57
Enrico Fermi completion date ....Sept 59
Enrico Fermi: graphite problems ....Dec 63
Evaluation of mercury cooled fast breeder reactors (Report ATL-505) ....Feb 89
German fast breeder design studies ....Nov 54
LAMPRE I critical ....May 56
the NDA steam cooled fast reactor concept ....Oct 75
Rapsodie: core model Dec 62, paper presented to IAEA symposium ....Dec 56
Studies of two fast reactor critical assemblies based on meltdown configurations (ANL paper) ....Apr 111

GAS-COOLED REACTORS
axial flug instability (R. I. Vaughan and W. J. Pickering) ....Apr 97-100
enrichment for magnox reactors? ....Nov 62
Possibility of irradiation induced transportation of carbon in helium (Report AERE R 3262) ....Jan 100
AGR refuelling (J. S. Burkett) ....May 75-7
AGR: burst cartridge detection (D. Iggulden) ....May 71-3
AGR: beryllium difficulties Aug 53, CEGB proposal Nov 53, containment building tested Sept 55, delay June 55, pressure vessel tested Sept 55
Berkeley and Bradwell: fuel loading Aug 54, critical (*P*) ....Sept 53, Oct 59-61
Berkeley: (*P*) ....Mar 54, Aug 53
Bradwell: (*P*) Apr 69, July 53, charge pans (Head Wrightson) (*P*) Jan 101, control rod modification Nov 62, criticality (Letters) Nov 49
Calder Hall (*articles*)
fifth anniversary (Editorial) Nov 51, contribution of Calder Hall and Chapelcross to the civil programme (D. R. R. Fair and T. N. Marsham) Nov 65-74, safety aspects of Calder Hall reactor operation (E. L. Desbrulais) Nov 75-8, selecting a fuel cycle for magnox reactors (N. L. Franklin *et al*) Nov 79-83, ...Dec 77-9
Calder: experience Mar 53, on-load refuelling tested Sept 54, Calder simulator (*P*) Nov 62, 88
Dungeness (*articles*)
novel design features (R. D. Vaughan) Apr 76-9, development of graphite core (S. B. D. Fletcher) Apr 79-81, burst cartridge detection system (J. O. Joss) Apr 81, gas blowers and drives (J. Armor) Apr 83-4, steam cycle (N Brearley) Apr 85-8, design and construction of steam generators (W. Hryniszak) Apr 89-92, coloured cutaway perspective drawing Apr 90, civil engineering (A. H. Brown) Apr 92-4, construction programme (E. G. W. Povey) Apr 94-6, contractors ....Apr 96
Dungeness: (*P*) Apr 70, July 53, Sept 54, Nov 53
Dungeness boilers: stress-relieving furnace (*P*) ....Dec 56
EDF-1: pressure vessel crack Mar 106, to take part in Italian SELNI project ....Jan 58
EDF-3 concrete pressure vessel ..Mar 54, Nov 53
EGCR: graphite columns (*P*) ....Nov 63
EL-4 progress (French AEC annual report) ....Nov 55
HPR — a 60 MW natural uranium nuclear power station (R. E. Strickland & T. J. Fowler) ....Aug 84
Hinkley Point: core changes complete (*P*) Nov 54, pressure vessels tested Mar 55, progress ....Oct 55
Hunterston: fuel elements and pressure vessel stress relieved (*P*) June 56, Sept 53, fuel machine (*P*) Apr 105, progress Mar 54, stress relieving pressure vessels (*P*) ....Nov 64
Latina: AEA supply fuel ....Nov 61
ML-1: critical May 56, pre-start up tests June 60
Sizewell (*articles*)
design optimization (H. S. Arms) Aug 61-5, control and instrumentation (D. Moore) Aug 65-9, civil and mechanical design aspects (J. D. McKean and N. O. E. Lakin) Aug 69-72, gas circuits and boilers (T. B. Webb) Aug 72-6, conventional plant design (C. Bottrell and J. Caldwell) Aug 76-81, contractors Aug 81, coloured cut-away perspective drawing Aug 74
Sizewell: design details Jan 95-6, work starts ....June 56
Sizewell progress (*P*) ....Dec 59
Tokai Mura: test plates (Letters) Sept 49, French graphite June 56, delay ....Nov 58
Trawsfynydd: (*P*) June 53, Aug 54, control rod generators (Bruce Peebles) Feb 92, graphite blocks lifted (Matterson) May 88, temperature scanning (Blackburn) ....Jan 102

HEAVY WATER REACTORS
CANDU power costs ....May 57
Halden: fuel elements delivered ....Dec 55
NPD delayed ....Aug 58
The Siemens 50 MW Multi-purpose Reactor design (A. Ziegler) ....Mar 71-4
Siemens 50 MW reactor to be built ....Aug 55
Steam generating heavy water reactor, UK ....Aug 59

HIGH TEMPERATURE GAS-COOLED REACTORS
Brown Boveri-Krupp reactor's special features (O. Machnig *et al*) ....Mar 63-6
Dragon: instrumentation contract Sept 90, progress (*P*) ....Mar 53
completion date ....Dec 57
HTGCR: General Dynamics simulator (*P*) July 88
300-500 MW General Dynamics programme ....Jan 59
US Turret experiment: dropped Apr 73, reinstated ....July 56
continues as UHTREX ....Dec 58

ORGANIC MODERATED REACTORS
Direct cycle diphenyl reactor (Marquardt) July 86
OMR design study (AI for KBWP, Germany) ....June 55
Euratom ESSOR contract ....Dec 55

PRESSURIZED WATER REACTORS
Chooz: bids Mar 106, contract signed Nov 54
Indian Point: core tested Sept 59, critical July 57, pressure vessel design ....Aug 86
PL-3 Antarctic plant to be built ....Nov 60
Saxton 5 MW reactor facility start-up approval ....Sept 58
Shippingport blanket: 12,400 MWd/t exposure Feb 57
Yankee: produces power Feb 57, costs reduced Aug 56, 500h test programme ....June 59

SODIUM COOLED REACTORS
Hallam: pressure vessel (*P*) ....July 57
An integrated turbine-reactor control system for the SRE (Report AI-6121) ..June 80
Interatom project ....Nov 54
360MWe Atomics International proposal ..Dec 60

Reactors—Research, Testing, Training
Advanced Test Reactor contract (Fluor) ..Dec 59
AMF 1MW pool reactor operating at Buffalo University ....Sept 57
ANL Basic Radiation Effects Reactor ..Aug 75
Bepo: Wigner release ....May 56
BR-2: (*P*) July 56, critical ....Aug 53
BR-3: fuel (*P*) ....Nov 60
DR1: some boiling phenomena (Risö Report 21) ....Dec 86
Dido: new core raises power level ....Jan 58
Fast Burst Reactor start-up ....Feb 59
Fast reactor studies at Aldermaston: VERA (*P*) ....Mar 53, Apr 74
Ford Reactor, Michigan: joint use ....Nov 94
FR-2, Karlsruhe: building (*P*) Mar 95, critical May 56, graphite delivered ....Feb 54
FR Merlin, Garching: Demag crane Mar 93, commissioned ....Nov 57
GE 3 MW pool reactor, Rhode Island ....Apr 72, June 59
Hector pressure vessel (*P*) ....Dec 63
Hero's reactor vessel (Ashmore, Benson, Pease) (*P*) ....May 88
High Flux Isotope Reactor, ORNL ....Dec 69
Jason operating experience—2 (J. C. Bolton and M. G. Tennet) ....Jan 89-91
Jason: power record Mar 53, future disposal ....Sept 53
Jason for Royal Naval College, Greenwich ....Nov 61
JRR-2: (*P*) Feb 58, progress ....May 58
JRR-3: 2nd fuel load ordered ....Oct 57
Juggernaut reactor: design details ....Feb 81
Merlin: research programme ....June 86
Moata critical ....June 56
NBS High Flux Reactor design ....Nov 84
Nestor operates at Winfrith ....Apr 68, May 53
NORA zero energy assembly, Norway (*P*) ..Jan 57
ORNL 100 MW High Flux Isotope Reactor contract to Allis-Chalmers ....Sept 58
PEGGY completed at Saclay ....Mar 53
Portable medium reactor No. 1 (PM-1) zero power experimental studies (Martin Co paper) ....Sept 82
progress in USA educational establishments ....June 92
Savannah River D_2O Components Test Reactor pressure vessel ....Sept 57
The Scandia Pulsed Reactor Facility (SPRF) (Report SCR-229) ....Nov 85
Siemens Argonaut: for Graz University Nov 54, for Karlsruhe ....Jan 58
Siloé for Grenoble ....Jan 57
The Siloé reactor: design details ....May 74
Triga: Casaccia's RC-1 modifications ..June 56
Triga: for Mainz University Jan 59, Minas Gerais University, critical ....Feb. 59
250 MWt ATR: Babcock & Wilcox subcontractors ....Jan 60
UK procedure for university reactors ....Jan 99

Ulysse 100 kW reactor completed at Saclay ..... Mar 53
university reactors: (Letters) Jan 53, Sept 60. UK Government decision Feb 54, agree to three reactors June 56, delay Aug 55, grants suspended ..... Sept 55
water moderated reactor for Kinki Un., Japan ..... Jan 60
Western Germany: research reactors (table) ..... Mar 61
Westinghouse 60 MWt PWR test reactor under repair ..... Sept 57
Wyoming Un. L-77 reactor close down instruction ..... June 58

Remote-handling and analytical techniques used in the processing of samples from HTGC loop irradiations (Report AERE R 3252) ... July 89
Remote handling: Windscale contract (GEC) ..... Sept 90
Rensselaer Polytechnic Institute: glass fibre fuel elements ..... May 88
Research pattern, UK (Editorial) ..... Oct 53
Richardsons Westgarth: Engineering Exhibition ..... May 78
Royal Navy: Nuclear School & laboratory ..... Feb 54
Rumania: nuclear activities 1960 Jan 64, industrial use of isotopes ..... Aug 92

S

Safety circuits, reactor (U. Broccardo) June 67-9, July 81-5, Oct 76-7
Sandvik: new research laboratories ..... Sept 90
Shell Research Centre: electronic trace reader (*P*) June 86, periphery camera ..... Sept 85
Short Bros: Calder simulator ..... May 78
Siemens: solid homogeneous training reactor ..... Dec 55
Sigri-Kohlefabrikate: graphite production Mar 92
Silicon nitride under test (Union Carbide) Apr 104
Simmering-Graz-Pauker: Engineering Exhibition ..... May 78
Sintering furnace for actinides (Spembly) Dec 64
Smith & Nephew Ass Coys. Ltd: Van de Graaff used for sterilization of products ..... Oct 92
Société d'Energie Nucléaire Franco-Belge des Ardennes (SENA): finance Mar 103
Société Industrielle du Zirconium formed ..... Mar 103
Solartron: £84,000 contract with USSR Apr 114
South Africa
nuclear activities 1960 Jan 70, exports of nuclear materials Feb 56, Potchefstroom Un. accelerator Feb 57, nuclear power report Sept 59, research institute June 57, Southern Universities nuclear institute July 92, uranium oxide sales Feb 58, uranium pilot plant May 56
South America: nuclear activities 1960 Jan 66
South America: nuclear prospects ..... Dec 60
Spain
nuclear activities 1960 Jan 64, W. Germany delegation Jan 58, 250 MW station ..... Mar 53, June 54
Specialization in university training ..... Sept 83
Spembly: automatic loading sintered pellets (*P*) ..... Aug 87
Stainless steel: stress corrosion cracking July 79
Steam corrosion testing: Sulzer (F. Muller) ..... May 68-70
Steam-water flow: *Flow conditions and pressure drop of steam-water mixtures at high pressures in heated and unheated tubes* (IMechE paper) ..... June 80
Steels for reactor pressure circuits, BNEC Symposium, Nov 1960 (G. E. Darwin) ..... Jan 93-4
Sterilization: accelerator used for pharmaceutical products ..... Oct 92
Strontium-90: 40,000 curie source for Antarctic weather station Oct 92, Hanford shipments ..... Nov 90
Sub-critical assemblies ..... May 92
Sub-critical assemblies: *Nuclear test gauge* (GEC paper) ..... Apr 111
Sweden
AB Atomenergi reports May 54, Sept 55, Asea's 2nd nuclear laboratory started Feb 53, BWR decision delayed Feb 55, D_2O reactor concept May 54, DX MTR project abandoned May 54, D_2O BWR 'Bashful' project Aug 56, Marviken nuclear power station controversy Sept 58, plasma experiments Oct 55, R-4 report Sept 55, Stockholm isotope technical laboratory Mar 55, uranium plant closes ..... Oct 56
Switzerland
nuclear activities 1960 Jan 64, Emse Werke AG starts heavy water production Jan 59, Lucens station: hold up May 56, completion date July 53, NGA new grouping ..... June 54

T

Taiwan: nuclear activities 1960 ..... Jan 70
Telektron: Berkeley fuel discharge mechanism ..... May 78
Temperature measurement
Availability of atomic oscillator strengths for application to studies of high-temperature plasmas and atomic structure (Southern Missionary College paper) ..... Aug 85
Determination of gas temperatures using beta-ray gauges or electron beam probes (Ontario Research Foundation paper) ..... Aug 85
Heat flux probe for dynamic measurements in high temperature gases (University of Minnesota report) ..... Nov 85
photo-electric pyrometer (Australian SIRO) ..... Jan 102
Use of pneumatic probes in gas-cooled reactors (Allis-Chalmers and Marquardt paper) .. Feb 89
Thailand: nuclear activities ..... Jan 70
Thermocouples
Calculated radiation induced change in thermocouple composition (ORNL paper) ..... Aug 85
Effect of cold working upon thermo-elements (Leeds & Northrup paper) ..... Aug 85
Effects of nuclear radiation on thermocouples (ORNL paper) ..... Aug 85
Fibro platinum for thermocouple elements (Engelhard paper) ..... Aug 85
high temperature thermocouples (Morganite Research and Development Ltd) ..... June 70
Measurement of high temperature emf characteristics: I emf instability: II emf scatter (Honeywell papers) ..... Aug 85
new welding process (Spembly) ..... Aug 87
Operations of thermocouples under conditions of high temperature and nuclear radiation (Marquardt paper) ..... Aug 84
Platinel—A noble metal thermocouple (Engelhard paper) ..... May 93
retractable thermocouples (UKAEA, Risley) ..... Aug 87
Some experiences with noble-metal metal sheathed thermocouples (Report UCRL-6325) ..... Aug 84
Thermocouple research to 1000°C, 1957-1959 (Report ORNL-2773) ..... July 89
Thermocouples for measurement of the surface temperature of nuclear fuel elements (ORNL paper) ..... Aug 85
Thermocouples for 5000°F using rhenium alloys (GEC paper) ..... June 80
Thickness gauges: radioisotope applications: USSR ..... May 88
Thorium fuel for BWR's ..... Oct 85
Thorium/uranium fuel for 'Suspop' ..... Nov 62
Trace reader, electronic (Shell Research) June 86
Tracerlab: Hanford Production Reactor monitoring order ..... Nov 94
Translations: international pool 'Transatom' ..... May 92
Transmission lines: Thames crossing (Blaw Knox and BICC) ..... Feb 92
Tube Investments: research and development expansion ..... Dec 94
Tube Products Ltd: Dungeness finned steel tube order ..... Aug 94
Turkey: nuclear activities 1960 ..... Jan 70

U

Ultra Electronics: magnetic amplifiers for Hinkley ..... Jan 108
Union Carbide: developing silicon nitride ..... Apr 104
United Arab Republic: nuclear activities 1960 Jan 70, Inchass reactor: inaugurated Sept 57, full power Nov 58, Norway agreement Feb 54
United Kingdom
Association of Scientific Workers fuel policy Jan 59, Belfast Reactor Committee Nov 54, Bradwell cost June 55, cheaper gas Nov 55, Common Market Sept 53, concrete pressure vessels for Oldbury and Wylfa Jan 57, Electric Power Convention July 53, export controls Oct 55, Foratom industry disagrees Apr 69, Ionizing Radiations Regs. Sept 53, Oct 56, Nuclear Energy Standards Committee Apr 69, nuclear activities 1960 Jan 64, Oldbury tenders July 53, Aug 53, Nov 53, Parliament looks at nuclear power Mar 54, Pakistan agreement Nov 58, research centre talks Aug 54, Sizewell supergrid line June 55, Soviet visit June 54, Aug 55, uranium—Scottish survey June 56, May 56, USSR agreement July 54, Wylfa Head public enquiry ..... May 54, June 54
UKAEA
accounts 1960 July 94, annual report 1960-61 Aug 59, Calder/Chapelcross output up June 56, Canadian uranium talks May 55, June 56, Nov 58, Dragon fuel provision Sept 56, Euratom-UK experts meet Jan 58, fast reactor roundup Oct 56, fuel sales rise Aug 56, information (Editorial) Apr 67, Latina fuel agreement Oct 55, new Reactor Group Mar 53, staff changes Nov 53, USSR visited Nov 53, uranium agreements ..... Mar 54
UKAEA—Aldermaston
new plasma project ..... Mar 54
VERA fast reactor assembly .... Mar 53, Apr 74
UKAEA—Amersham
beryllium-7 and Diodine I-131 production Aug 92
carbon-14 labelled carbohydrates ..... Sept 88
incident ..... Oct 56
new isotopes: arsenic-74, cobalt-57, strontium-85, iridium-192 ..... Dec 92
processing facilities ..... July 54
UKAEA—Harwell
progress survey (J. S. Burkett) ..... Aug 66-8
Nimrod synchrotron delayed Jan 57, (*P*) July 55
Nimrod ion gun success ..... Oct 56
United States
nuclear activities 1960 Jan 67, Antarctic 1MW plant bid Aug 56, BWR 300MW prototype decision Feb 58, Consumers BWR research programme develops May 57, gas cooled heavy water project dropped July 57, Hanford's New Production Reactor may deliver power Feb 57, May 58, project rejected Aug 58, Sept 58, Oct 57, Hanford graphite order Oct 57, Hanford's radiation sources production target Aug 62, Hanford's waste disposal Apr 104, Los Angeles withdraws from 50MW Intermediate Cycle BWR project Mar 56, nuclear firms in Europe (S. Hollands) June 78-9, OMR 50MW prototype proposal Feb 58, Apr 74, July 57, 132 utilities in nuclear power Feb 56, 60MW Plum Brook Test Reactor hearing Feb 56, provisional license June 60, process heat reactor project Aug 56, small PWR plans abandoned Apr 74, Southern California Edison/Westinghouse 375MW PWR proposals June 57, Oct 57, spent fuel elements: shipment procedures Nov 60, subsidies July 56, uranium charges reduced July 57, Aug 57, enriched uranium availability Nov 60, US Congressional hearings Apr 72, US Army floating nuclear power plant contracts Sept 59, US-Euratom Act amended ..... Oct 57
USAEC
annual report 1960 Mar 56, 1962 budget Mar 56, May 57, cost manual June 59, internal organization changes Sept 58, reactor operations survey Nov 59, regulatory programme revised ..... June 58
fuel grants ..... Dec 58
USSR
nuclear activities 1960 Jan 65, assistance to 11 countries May 56, breeder agreement with India Nov 59, central Asia nuclear research centre June 57, co-ordination of scientific research June 56, electrical network with Finland Apr 73, Emelyanov exclusive interview July 55, fast neutron pulse reactor at Dubna (*P*) Aug 57, fast reactor programme Oct 56, France: co-operation May 56, fusion Feb 55, Indonesia aid Apr 74, Iraq aid July 55, Japan agreement Aug 56, more nuclear powered ships Aug 56, Pakistan aid Aug 57, power growth 1954-9 Sept 59, reactors in the Soviet Union (V. Emelyanov) Feb 75-6, UK visits June 54, Aug 55, UK agreement July 54, UK supplies gamma thickness gauges July 94, UKAEA scientists visit Nov 53, Voronezh 420 MW PWR steam turbine completed Feb 59, Apr 72 July 57
BR-5 (IAEA symposium) ..... Dec 56
United Power Co formed ..... Mar 103
Uranium
civil demand 1975 ..... Nov 60
Pretreatment with hydrazine prior to the uranium cycle of a TBP process (Report AERE R 3509) ..... June 80
steel corrosion resistance improved .... Aug 86
USAEC prices reduced . July 57, Aug 57, 60
Uranium production (*See also* Australia, Canada)
Mary Kathleen Uranium Ltd profits July 94, South African agreement ..... Mar 106
Uranium carbide: Atomics International order ..... June 87
Uranium carbide for reactors symposium June 58
Uranium carbide meeting, ORNL, Dec 1960 (Report TID 7603) ..... Sept 82

V

Valves: butterfly, for Dungeness (Boving) Apr 105
Valves: fluid control, Capenhurst ..... Apr 106
Vietnam: nuclear activities 1960 ..... Jan 70
Vitro-Pechiney agreement ..... Mar 103

W

Water corrosion testing: Sulzer (F. Muller) ..... May 68-70
Weld inspection at Hunterston (Pantak) (*P*) ..... Apr 105
Welding and non-destructive testing equipment survey ..... Sept 70-4
Welding: electroslag, for Dungeness boilers (*P*) ..... Dec 62
Welding: new developments (R. G. Burt) Oct 62-5
Welding: processes (Students) ..... Oct 90
Welding reactor vessel and heat exchangers (F. S. Dickinson) ..... Oct 66-9
Welding: stud, for Hunterston ..... Dec 63
Welding tantalum (Shell) ..... Nov 62
West, Allen: electrical research laboratories ..... June 85
Westinghouse: EGCR fuel element contract July 94, Japanese materials testing contract June 87, lightweight nuclear generator June 57, superconducting magnet development ..... Nov 62
Japan licence agreement ..... Dec 94
Winston Electronics: beryllium monitor orders ..... Jan 108

Y

Yugoslavia
nuclear activities 1960 Jan 66, Triga: for Josef Stefan Institute Feb 53, IAEA aid requested May 56, Nov 57, Italian OMR co-operation ..... June 55
Yugoslavia: two training reactors ..... Dec 57

Z

Zircaloy-2 pressure tubes creep—I, longitudinal direction (Report AECL-1289) ..... Nov 85
Zirconium: water and steam corrosion (F. Muller) ..... May 68-70
Zirconium: hafnium separation (NBS) .. Aug 87